

# RADIO-PERCEPTION

THE JOURNAL OF THE  
BRITISH SOCIETY OF DOWSERS

Vol. VII No. 55



MARCH, 1947

CONTENTS		Page
Notices		109
Members		111
<i>Part One</i>		
Concerning Dowsing Fields and Rays in General		112
By J. Cecil Maby, B.Sc., A.R.C.S., F.R.A.S.		
With Rod and Bible through the Holy Land		119
Leslie J. Latham, F.R.A.S., F.R.S.A., F.G.S.		
Dowsing for Gold in Wales		128
By V. J. Dumert, A.M.I.R.E.		
Geophysical Prospecting and English Oilfields		130
Reprinted from <i>Nature</i>		
Archaeological Dowsing		136
The "F" or Fringe Bank of a Stream		140
By L. B. McEwen, B.Sc., A.M.I.E.E.		
How a Pendulum can help the Shoemaker		144
By N. Macbeth		
<i>Part Two</i>		
Dowsing for the Simillimum		147
By G. B. Stearns, M.D.		
Radiesthesia		150
A Demonstration of Apparatus and Technique		
Unrelated Intelligence varies little, Belated much		151
By W. E. Benham, B.Sc.		
Letters to the Editor		153
Reviews		155
Notes and News		162

Published quarterly by the Society at York House, Portugal St., W.C. 2

Price to Non-Members, 3/-

# BRITISH SOCIETY OF DOWSERS

---

## OFFICERS AND COUNCIL, 1946-47

### President

COLONEL A. H. BELL, D.S.O., O.B.E., M.R.I.

### Vice-Presidents

Major C. A. POGSON, M.C.

Captain W. H. TRINDER

O. F. PARKER, Esq., A.R.S.M., M.A., F.S.A.

### Members of Council

G. UNDERWOOD, Esq.

Mrs. BARRACLOUGH

L. E. EEMAN, Esq.

T. BEDFORD FRANKLIN, Esq., M.A., F.R.S.E.

W. E. H. HUMPHRYS, Esq., B.A.

V. D. WETHERED, Esq., B.Sc.

Lieut.-Colonel H. M. EDWARDS, D.S.O., *Secretary and Treasurer*,  
56 Oxhey Road, Watford, Herts.

### Assistant Secretary

Miss E. H. LAMPSON, York House, Portugal Street, London, W.C.2.

Tel: Holborn 0805

# JOURNAL OF THE BRITISH SOCIETY OF DOWSERS

Vol. VII No. 55

March 1947

## NOTICES

At a Council Meeting held on November 13th, it was decided to dissolve the Investigation Committee. Owing to the dispersal of most of the original members it has for some time ceased to exist as a Committee, all research work having been carried out at Mr. Maby's Biophysical Laboratory at Bourton-on-the-Hill.

\* \* \* \*

A member is anxious to acquire numbers 1 to 8 of the *Journal*. Would anyone who can help kindly communicate with the Editor.

\* \* \* \*

A new list of books in the B.S.D. Library has been printed; a copy will be sent to any member on application.

\* \* \* \*

A Title Page and Contents for Vol. VI have been printed, and will be supplied by the Editor on application.

\* \* \* \*

The price of new *Journals* to members, in excess of the free number, and of old *Journals*, is 2/- and 1/6 respectively.

Six free copies of the *Journal* will be given, on request, to writers of articles in it, in addition to the usual copy.

\* \* \* \*

On January 1st an address of much interest was given to the Society at 11 Chandos Street by Mrs. Kingsley Tarpey on "Radio Therapy, the Evolution of a Technique."

\* \* \* \*

Mrs. Kingsley Tarpey's little book, *Healing by Radiesthesia*, which was reviewed in the March *Journal*, can be obtained from the Forum Publishing Company, 64 Winifred Road, Coulsdon, Surrey; or from Mrs. Kingsley Tarpey, 35 Downside Crescent, Belsize Park, N.W.3; price 2/6, post free.

*Radiesthesia II* and Dr. Richard's *Medical Dowsing* can be obtained from Miss Barnard, 25 Berkeley Square, London, W.1, at 3/6 and 1/1 post free, respectively, or 4/6 if ordered together.

The following books have been added to the Library :  
*Révélation sur la Radiesthésie*, by J. Charlotiaux and A. Dohet, 193 pages.

*Secrets des Couleurs*, Vol. I, by Hector Mellin, 223 pages.

\* \* \* \*

Copies of *Révélation sur la Radiesthésie* and of the quarterly *Revue Internationale de Radiesthésie* can be obtained from Mr. F. W. de Valda, 160 Castle Hill, Reading. The price of the former and of single copies of the latter is 12/6 post free, less 15 per cent. discount to members. The price of four consecutive copies of the *Revue* is 30/-, less 10 per cent. to members.

\* \* \* \*

The following Divining Rods can be obtained from Mr. Guy Underwood, Belcombe House, Bradford-on-Avon, Wilts :—

OASIS Pocket Divining Rod (in case), 10/-.

Ditto, larger "Supersensitive" Type, 21/-.

ROTOGAUGE Estimating Rod, 12/6.

Also

Reprints of four articles and a lecture on dowsing published in the *B.S.D. Journal*, price 6/- the set.

All post free, cash with order, and subject to a discount of 20 per cent. (4s. in the pound) to members of the B.S.D.

\* \* \* \*

Whalebone strips, cut to the following dimensions, can be obtained from Messrs. Devine and Co. Ltd., St. Stephen's Road, Old Ford, London, E.3, at the price of 5/- per rod (2 strips).

Flat : 12in. long x 7mm. wide x 2mm. or 3mm. thick.

Circular : 12in. long x 3mm. or 4mm. in diameter.

Square : 12in. long x 3mm. or 4mm. square section.

Spherical whale-ivory pendulums can also be supplied at 8/- each. Prices for rods and pendulums prepared to specific dimensions are given on request.

All prices are post free in U.K.

\* \* \* \*

The Society's badges can be obtained from the Honorary Secretary. Owing to the increased cost of postage, the price is now 1/3 post free.

\* \* \* \*

Communications for the Editor, and inquiries, should be sent to Colonel A. H. Bell, York House, Portugal Street, London, W.C.2

## MEMBERS

### NEW MEMBERS

BAGOT, A. G., Roselyn Farm, Piawaning, Western Australia.  
BRUCE, Mrs., Little Cliff, Point Hill, Rye, Sussex.  
BRYAN, A. L., D.O., Upton Hydro, Kil muckridge, Gorey, Co. Wexford, E  
COOMBS, Mrs., 1 The Clears, Reigate, Surrey.  
FOSTER, F. A., 82 Elgin Avenue, Kenton, Middlesex.  
GHALI, I., 23 Guisrel Bahr, Beni Suef, Upper Egypt.  
GLAZEWSKI, Rev. A., P/36 Pol. For., B.A.O.R.  
GORDON-DUFF, Miss H. A., 13 Sheffield Terrace, W.8.  
HOLDEN, M., 32 Sutton Road, Preston, Weymouth, Dorset.  
MANNING, A. D., 18 Wodeland Avenue, Guildford, Surrey.  
ORME, A. S., Purbrook, Dorking, Surrey.  
SHARMA, Dr. C. H., Gheekante Road, Ahmedabad, India.

### RESIGNED

ARAGO, Commander F.  
JONES, Miss O.

### OBITUARY

BAINTON, A. W.  
MAHADEVA, S.  
ROSS, E. F.

### CHANGES AND CORRECTIONS

ANDREWES, Mrs., c/o Barclays Bank, P.O. Box 923, Durban, Natal.  
BARRETT, Miss E., Palazzo Patrizi, 53B Via Margutta, Roma (8), Italy.  
BREIJER, Dr. C. H., 9 Neville Street, S.W.7.  
CANN, F. N., 10 Glebe Lane, Sonning-on-Thames, Reading, Berks.  
COWARD, R. E., Divisional Engineer's Office, S.Rly., Woking, Surrey.  
EGGAR, Sir ARTHUR, c/o National Bank of India, Rangoon, Burma.  
LAMB, W. H., Castle Gates House, Shrewsbury.  
\*LAURIE, A. S., c/o Barclays Bank, Salisbury, S. Rhodesia.  
LEAKE, Miss K. M., B.Sc., 11 Denmark Avenue, Wimbledon, S.W.19.  
MEIGH, W. H., c/o District Bank, Hanley, Staffs.  
PALMER, Mrs. C. H., c/o F. Mayson, Esq., 7 Westfield Avenue, Gosforth,  
Newcastle-on-Tyne.  
PONSONBY, Lieut.-Colonel R. G., c/o Lloyds Bank (R2), 6 Pall Mall, S.W.1.  
SHARMA, Dr. C. H., BM/EVWG, W.C.1.  
WINER, E., M.N.C.A., N.D., D.O., 30 Harley Street, W.1.  
WOODWARD, F. R., 181 Widmoor Road, Bromley, Kent.

## PART ONE

### CONCERNING DOWSING FIELDS AND RAYS IN GENERAL

BY J. CECIL MABY, B.Sc., A.R.C.S., F.R.A.S.

The last *Journal* contained numerous assertions regarding dowsing fields and rays that call for discussion or amplification, I think. But first I want to make some additions to my brief notes on the radio-electrometer in the December *Journal*.

(1). *The Radio-Electrometer*.—After a year of perplexity, real advances have recently been made again in the understanding and operation of this type of detector. The following facts seem to be definite, and they help to explain previously unfathomable sources of irregularity.

(a). The sure result of staring intently with *one* eye only at the instrument is to rotate the cylinder in one direction for the right eye, the opposite way for the left. (*Which* way depends on the right or left handedness of the subject and the details of instrumental set-up). This confirms the earlier work of Von Reichenbach, Abrams, Kilner and others, including some pendulists. The effect is quite strong and repeatable, and shows how careful one has to be when determining polarities of test objects by any such method. The rest of the body may be metal-screened.

(b). When radiation from the human body, an oscillator, or other suitable source of energy is passed through a dielectric such as glass, celluloid or perspex, instead of direct through air or along metal conductors brought near to the cylinder, then it can be shown that the original polarisation is inverted. This effect, too, has been carefully and repeatedly checked. It may explain the fact, recorded by the late Captain Boothby, Captain Trinder and Captain Campbell Line and myself respectively, that wearing "polaroid" (or even ordinary) glasses tends to invert the normal dowsing (rod or pendulum) reactions. If so, this and the previous item suggest that the human eye may be important both as an emitter and receiver in radiesthesia.

(c). For polar tests on objects with an organised structure, such as wood, it is evidently meaningless to speak of a generalised "positive" or "negative" polarity (as one can with eggs, chemicals and most other materials); since the result depends on which way up the object is introduced into the test coil or gap. This confirms Mrs. G. Barraclough's contention that certain pendulum bobs have bi-polarity—those of organic, and, perhaps, crystalline structure, it seems.

(d). The instrument cannot be balanced and stabilised at a zero reading, even under magnetic control, unless exact symmetry of all parts and adjacent objects is first ensured. The body of

the observer or subject is especially liable to upset the initial balance, and to bias the reactions in either a clockwise or anti-clockwise sense, if placed on one side of the N/S meridian line through the instrument. The least dislocation is fatal, especially within about 5ft. range.

(e). Severe fading of the generalised (? cosmic or geophysical) radiation intensity can occur in fine and, apparently, settled anticyclonic weather as well as just before oncoming storms, or in heavy fog, &c. One recent cold spell, with its N. or E. winds, was an example; and I suspect that it is all to do with some general electrification of the atmosphere (as already suggested by the Dulls, Clements, Huntingdon, Stetson and other workers on natural growth and trade cycles), that is, associated with interfaces between warm tropical and cold polar air masses, &c.

NOTE.—Certainly, there is no evidence of a screening or blanketing of some hypothetical down-coming radiation by cloud masses. The effects are far more complex than that—alas for the original hypothesis put forward in our book (*The Physics of the Divining Rod*, Bell & Sons, 1939) by Franklin and me! For these electro-metric effects are paralleled by weakening of ordinary dowsing fields, I find, and the above remarks confirm what earlier Continental workers also found long ago. But the fields or rays in question are very patently related to vital metabolism, growth rate, and our general psychological condition at any given time, over and above mere dowsing effects. And I consider the biological and psychological repercussions to be infinitely more important than the mere application of such rays and fields to water or mineral detection.

As for the nature of the radiation, there is, by now, a great accumulation of evidence of various kinds to show that it must, in fact, be an "etheric" wave radiation, not some sort of "field" as Mr. A. H. Reeves has suggested to me. For it evidently obeys all the laws of ordinary electro-magnetic optics (like wireless, light, heat, ultra-violet and gamma rays) when critically examined; plus one or two additional and somewhat extraordinary features of behaviour. And it may well be that the latter will, one day, call for some revision or extension of classical theories of electro-magnetism. But all this is too technical for discussion here.

(2). *Mr. S. A. Hurren's Lecture*.—The following comments on three points may be of interest to Mr. Hurren or his readers:—

(a). It is encouraging to see that the Russell Sage Foundation, U.S.A., has defined a radio frequency of  $3.33 \times 10^{13}$  per second for the output of e.m. energy from the human body; though one would like to hear upon what work (? electro-encephalograms, &c.) the conclusion was based.

This frequency is in the middle of the infra-red heat rays—a region that has long interested biologists, including some psychological researchers, dealing with seance-room phenomena; and I have

myself pointed to it on several occasions in lectures and articles, relative to radiesthetic phenomena. The "micro-wave" (and Radar) to ultra-short Hertztian region is also of interest to dowsters and radionic operators, I think.

Such *infra-red rays* have considerable penetrating power for substances, such as black paper, card, wood, glass, vulcanite, &c., though not for good conductors and metals, as G. le Bon first demonstrated over fifty years ago. (Possibly this property has something to do with Dr. O. Brunler's undefined "dielectric waves" ?). And there is some evidence, in my own war-time research work with Messrs. Franklin, Trinder, Reeves and others, that we are dealing with e.m. waves of the *infra-red to ultra-short Hertztian* group in dowsing.\* But this only represents half the battle, I think. Franklin, Budgett, Reeves and I seem to be agreed that there is also another, far higher frequency, component, somewhere up in the *hard gamma-ray region* or beyond. And the latter radiation appears to be the more primary, penetrating component, responsible for the vertical responses in dowsing (when samples are carried), the "fundamental rays," the effects on ionisation counters, electrometers and spinthariscopes or photo films; also, perhaps, the earth potentials which we (Maby and Franklin) examined in 1937-38.

Finally, and probably as a secondary derivative of the primary rays just mentioned, there seem to be certain *corpuscular effects*, as in ordinary radioactive decay, that may very well produce appreciable effects on health (noxious "earth rays") and impressions on photo films (see *B.S.D.J.* II, 15). And, under suitable conditions, dowsters may even react to lower frequency wireless waves, on the one hand, and to light rays and (more strongly) ultra-violet ways, on the other. But these are, normally, not important, since they do not produce the definitive and diagnostic results that concern dowsters both in field and laboratory. They are also readily screened and absorbed by intermediate materials, though they can, and do, cause confusion on occasion.

The trouble, therefore, is that the sensitive tissues of living organisms respond far too widely; so that the task of the dowsing investigator is greatly complicated. Indeed, the general term "dowsing response" merely infers *some kind of reflex tissue reaction, directly or indirectly affecting nerves and muscles, that may originate in a number of different ways*. And, alas for the physical investigator, one of those ways is by means of voluntary or involuntary *psychological* control. The latter is, however, a "disease that afflicts amateurs," as Chesterton said.

---

\* Franklin and I (1939) suggested around 10 metres wavelength in relation to certain field dowsing phenomena. But laboratory analytical work seems to involve values between about 1 mm. (or less) and about 150cms. One mm. mesh gauze, moreover, almost entirely screens the new radio-electrometer, while 1cm. is quite useless.

(b). If I am right in supposing that Mr. Hurren's specific angular deviations for his twelve homœopathic specimens refer to the so-called "fundamental rays" (and he uses, roughly, a method that has been worked out in detail by Mrs. G. Barraclough and others); then it would seem that he has not got the consistently repeatable F.R. values. The reasons are, probably, that (1) he did not use any stabilising magnet (vertical under the specimen, N. pole up), and (2) that he did not also hold a sample (or "witness") of the same substance in his detector hand. For both these factors are essential to success, if consistent, repeatable results are to be got.

The corresponding, stabilised and repeatable F.R. values, *duly converted to Mr. Hurren's system* (viz., South as zero point, and proceeding anti-clockwise from there in degrees of arc), are as follows; and these values are directly correlated to actual chemical constitution and molecular weights of his specimens:—

Sodium sulphate . . . . .	234°	(instead of 225°)
Sodium phosphate . . . . .	220°	( " 245°)
Potassium sulphate . . . . .	214°	( " 190°)
Calcium phosphate . . . . .	163°	( " 210°)
Ferrie phosphate . . . . .	226°	( " 230°)
Potassium chloride . . . . .	326°	( " 240°)
Sodium chloride . . . . .	345°	( " 270°)
Calcium sulphate . . . . .	237°	( " 220°)

NOTE.—The other three substances he gives I have not determined.

These comparative values suggest that he was, indeed, obtaining "Fundamental Ray" values in several instances; but went astray in the cases of calcium phosphate, potassium chloride and sodium chloride. The others are too near to our instrumentally and theoretically checked F.R. values for chance coincidence, I think, considering the small scale of the experiment (a five or 10ft. circle is preferable) and the other conditions mentioned above. So that the result is significant; and many other close correspondences to the true values have been received from several other B.S.D. members, working independently.

(c). The use of metallised sheeting under sick beds, to screen off (?) harmful "earth rays," recalls the experiments and claims of several other well-known dowsers or medical workers—P. Cody, for example. But it all depends on what one is trying to eliminate. Thick lead, for instance, might keep off both direct radio waves and all but the most penetrating gamma rays (incidentally, these are, we think, the most significant component), resulting from radio-active transformations vertically below the site. But the lead, or other heavy metal, will also intercept some up-going and down-coming particles of the "cosmic" class, and give rise to showers of secondary electrons, &c.; and the latter

might well do more harm than the initial, more penetrating component.

Again, Hertzian waves "creep" round corners, so that only a very complete Faraday cage of metal sheeting is really effective; and Budgett's and our own work tends to show that the primary dowsing radiation is far too penetrating to be deterred by a single thin sheet of metal, let alone metallised cloth. Moreover, metals may create more reaction than they remove.

(3). *Dr. Oscar Brunler's Address.*—Dr. Brunler puts forward a novel and curious idea: the conception of "dielectric waves." These, he says, "are coupled with (certain) electro-magnetic waves, and these two kinds of waves are the cause of one form of radiation of our body." Again: "We find that every magnetic wave or electro-magnetic wave has coupled to it a second wave that is of a dielectric nature. These two kinds of waves are inseparable."

The concept of "dielectric waves"—were Dr. Brunler to define exactly what he means and how he arrived at the conception—sounds very intriguing. It is also interesting to see that Leonardo comes top of the list of geniuses, on the Bovis scale of standards, and that artists (using the eye, which is a later and "higher" sensory development than the ear) surpass musicians, who, in turn, surpass writers, military leaders and scientists, on the average. I think that one may reasonably compare such ratings with numerous Fundamental Ray evaluations for human beings (*not* all geniuses!) that I have made since 1941. My own impression, for what it is worth, has been that it is general temperament and bodily type, rather than intellectual calibre or relative genius, that determines such values.

Dr. Brunler's remarks on the divining rod and underground water do not seem to harmonise with modern work in that connection, but they are too vague and indefinite to allow of serious discussion. What he says about "Bio-Cosmic" rays, lying "beyond the shortest invisible ultra-violet rays," scarcely links up with the infra-red hypothesis discussed in part (2) of this article, but it is more in line with the claims of the Gurwitsch school regarding their supposed "mitogenetic" rays from growing organisms. These, like certain dowsing effects, seem to lie in or beyond the ultra-violet—possibly among what are known as the "diagnostic X-rays."

(4). *Mr. W. E. Benham's Article.*—Several points deserve comment, I think, as follows:—

(a). It is stated that "a pendulum swung over a lozenge sets itself along the long diagonal if there are no other disturbing factors." This may well be the result of auto-suggestion, acting through the operator's eyes, as related on p. 37 of *The Physics*

of the *Divining Rod*. For the average subject, it is sufficient to look at or think of a circle, an ellipse or a straight line for the pendulum to take up a like form and direction of motion; even matching the length of the line or the diameter of the circle or ellipse, &c.

(b). Bovis's 80cms. "physical" wavelength value for one subject appears to be in agreement with my own generic (not individual, "psychic," or temperamental) value for human beings, considered as mammalian animals. And 80cms., when converted to degrees of angular dispersion on the Fundamental Ray chart, also agrees with the F.R. value obtained by Trinder and me. But the 100cms. "psychic" value seems to be in the wrong direction—increasingly *physical*, that is to say.

(c). I cannot follow Mr. Benham (though he may be right) in his 400 and 600 cms. wavelengths for "paraphysicals," as our own linear scale—which seems to agree, more or less, with what was found by Turenne and other workers—ends at 150cms.: that is, some way beyond the value for uranium and the most complex chemical compounds yet tested. Certain primitive marine organisms appear to give the longest organic "wavelength," around 134cms., corresponding to that of thorium. Whalebone, incidentally, seems to have this value, also vitamins, cancerous tissues and free electrons. In fact, somewhere between 120 and 140 cms. appears to be a crucial value, in an electro-medical sense—for good or for ill. It is also the (repeating) distance at which both ionisation counters and the new radio-electrometer respond most markedly to any moving or electrically oscillated body, including the human body.

(d). A series of repetitive micro-waves between 5 and 40 cms. (Bovis mentions 19cms.) are referred to by Mr. Benham. I may say that prolonged instrumental tests with an ionisation counter and a variety of moving objects have satisfied me that there exist repeating small waves (? beats) at from 6 to 8 cms. intervals around all objects, regardless of their constitution, in addition to the specific values for individual substances. Every fourth of these micro-waves is an extra strong one, it appears; namely, at every 24 to 32 cms. They are also detectable by dowsing with a refined technique, though not so readily as the 120-140cms. bands.

(e). A change of wavelength when the radiations pass through a dielectric are mentioned. This is significant in relation to my remarks (1b) earlier in these notes, about inversion of polarity, using the radio-electrometer, or *Radionic Polariscope*, as one form of the instrument has been named. I wonder whether it was not really a *phase inversion* that Mr. Benham obtained?

To test this, I have tried interposing glass, celluloid, bakelite,

vulcanite and perspex respectively between the specimen and my hand (in which a matching sample is carried); the specimen consisting of iron, lead, radium or human hair. But I was unable to detect any wavelength change; though there might, if enough thickness of dielectric intervened, be some slight reduction in intensity, causing the reaction to occur a little later as the hand was moved sideways. Indeed, were such changes of wavelengths to occur, as suggested, all the work of radiesthetic and radionic workers would be dislocated; and the use of specimens in glass or bakelite bottles would have caused serious confusion long ago. It seems very improbable, therefore, that actual *specific frequency* is altered by interposed dielectrics.

(5). *Mr. G. Applegate's Article.*—Mr. Applegate's evident impartiality, personal persistence, clear statement of results and frank admission of difficulties or failures are highly commendable. One could wish that they were common to all would-be dowzers.

(a). There *are* three sure ways of distinguishing the "parallels" from the "verticals" of the stream band proper. These will be stated in my forthcoming manual for field dowzers that I hope to get published this year.

(b). Mr. Applegate, like Colonel Merrylees and many others, confirms the triple reactions on the primary bands, and notes that the subsidiary "flow bands" or "H bands" (Underwood) give no triple effects.

(c). I am also glad to see that someone else, without prejudice, has found what I found (see *Physics of the Divining Rod*, 1939) regarding the apparent reversal of the direction of action of the flow field as one crosses the main stream line, or R. It is, I think, this reversal that both makes it impossible to be sure which way the flow really acts (a relatively unimportant point in practice) and also causes the rotary twist on the whole of the dowser's body, that works instruments such as the "motorscope," and gives an experienced operator the semi-conscious feeling that he has actually crossed the midstream line of the whole field. Many dynamometer and "tonometer" readings indicated this to us.

N.B.—Like the polar reversals of the entire field, that have been confirmed hundreds of times by five different automatic instruments, apart from human physiology, this feature of the flow field is commonly missed by dowzers; either because they never really got down to details and serious business, or because they do not learn to distinguish two sorts of reaction of the rod, apparently.

## WITH ROD AND BIBLE THROUGH THE HOLY LAND

Abstract of a Paper read at the Rooms of the Medical Society, 11 Chandos Street, Cavendish Square, London, W.1, on the 29th November, 1946, by  
LESLIE J. LATHAM, F.R.A.S., F.R.S.A., F.G.S.

In making the usual acknowledgments to the Society for the honour accorded me in being invited to address you, representing as you do some of the keenest exponents of our craft, a word is first of all due perhaps on the unusual choice of subject for to-day's meeting. It amounts, I know, to a wide divergence from your customary treatment here on divination, which has normally pursued more or less scientific lines. But I do not mean to imply by this that the subject itself is in any sense unworthy of the attention of a scientific body, for even to-day the issues of which we shall now speak are as invulnerable as they were in times of more open persecutions. And, indeed, I can think of no body of men before whom I would more readily recount my story than yourselves; for, of all people in the world, the dowser must work so much by faith.

Also, somewhat unusually, I shall avoid all mention of methods of working and choice of apparatus, for, as you know, I hold these to be notoriously personal, and can safely presume that we are all diviners enough here to be adequately conversant with detector-phenomena. I shall confine myself, then, to my own specialised application of our craft, concerning as it does the location of buried archaeological remains, in this case, with special emphasis upon Biblical Palestine. Not that it is my intention, however, to embroil the Society in dull doctrinal dogma, or even, for that matter, in religion at all. I shall try to adhere to a sober narration of fact, as far as it reflects the historical witness of Biblical sources. On the other hand, our title is designedly uncompromising, and is framed, actually, to attract only those definitely interested.

We are not here to enquire this afternoon as to the place which religion occupies in each other's lives. For our purpose, it will not matter whether we are labelled as being "all things to all men," as staunch atheists, as lapsed or convinced Christians. Whatever our label, we are each in our own special way bound incurably to be influenced by the historical consequence of the drama enacted so long ago in far-off Judaea and Galilee. And apart from the Biblical aspect, we could scarcely fail to-day to have our attention focussed upon a land whose strife and bloodshed still agitate as unquenchably as they did under Pilate's Tenth Legion.

As you know, the term "Holy Land" has spiritual roots not only in Christianity, but also deep in the devotional make-up of both Jewry and Islam. We to-day can only deal with its Biblical implications. In this latter sense, the term can embrace most of the considerable Near East regions traversed at any time by the outstanding characters of the Bible, especially of the New Testament. And I think you will agree with me that of all places under this heading that of Nazareth is surely one with which we are most familiar? And whatever we may be prepared to argue about the true nature of Christ, I think we would all agree that the village in which He was brought up was bound to have left a considerable impress upon His character. Perhaps no finer tribute can be paid to the place where He spent His early years than, when in Arab lands, to hear oneself constantly referred to by Moslems as a "Nazrani!"

But however you travel through Palestine, whether it be on tour or on Service transit, you are bound to be discomforted by lots of people anxious to warn you that you are about to suffer the most grievous disappointment of your life. The result is that if you go in the spirit of one "doing" the place, as our Atlantic brethren are wont to say, then you will, in fact, be disillusioned. You will find, in the end, that the only right approach, the one creating the most lasting influence, is that which is purely contributory. Nothing is more bitterly disastrous to an act of appreciation or, if you will, of veneration than mere base, expectant receptiveness.

We now turn to the whole question of the sites held sacred by Christianity in Nazareth. It may be of such little consequence to us, sitting here to-day in teeming, modern London, as to what are the precise spots to be associated with the great events in the life of Christ; if we are nominal Christians, we feel it could not matter less. If we are fanatical sectarians even, it still is not an official article of faith. But I ask you to consider how different this is on the spot. Most Christian sites are located in areas hedged about and dominated by Moslem peoples; Christianity's most powerful antagonists. To Islam, the hundreds of pathetic divisions that vitiate our own faith are unknown. There are, at the most, four major divisions of Moslem theology, and even these are in perfect agreement about their official conception of the true nature of Allah or of the Prophet. This relative unity makes for a strength which is almost violent when assailed; an inherent aggressiveness which is an ancient legacy of Frankish atrocity tactics during the Crusades. And when the tiny islands of Christian culture dwelling in the heart of this fanatical atmosphere differ not only in creed, but in such matters as pilgrimage sites, then the toll in ridicule becomes quite destructive. It becomes a positive responsibility then for Biblical

archæologists to be both certain and unanimous in their identification of sites, in order that the external apologetics of Christendom bear the stamp of veracity.

At Nazareth there has been, until the last century at any rate, a refreshingly intact tradition for fixing the two sites whose significance is most vivid to Christendom; the home of the Holy Family (with the workshop of St. Joseph) and the synagogue hard by. And it is the former of these two interesting sites with which we shall now deal. For after hundreds of years of agreement as to the spot whereon stood the home of Nazareth's carpenter, a vitally important discovery in the 19th century suddenly split Biblical scholars into two opposing camps on this ancient issue. But before we examine this discovery, let us consider for a moment the full weight of the archæological evidence which normally identifies such sites in the Holy Land.

It is an ironical fact, but is none the less true, that Christendom owes not a little of its ability to identify its sacred spots to the intolerance, sometimes, of its adversaries as well as to the zeal of its own children. Many site-histories have a great deal in common; particularly the New Testament ones. First, we should have the actual passing from the ken of His day of Jesus himself; can we doubt that this would be followed, even in the teeth of the persecution which ensued, by a considerable secret pilgrimage on behalf of His followers to the scenes associated with the highlights of His ministry? And the all-important thing to bear in mind is that those who pointed out to their children the well-remembered spots would have no possible motive in lying about where these spots were. Their very continued visitation and recognition would remain a source of grave personal danger to them, for the local Roman garrison would always keep careful watch over such places as potential trouble-spots. One should always remember this, I feel, when perennially confronted by the "new" sites conjured with such relish by occasional Christians who are more concerned with evidences than with Faith. I think we need allow, too, only three or four generations to intervene between the death of those who had known the Crucifixion up to times when the Early Church commenced emerging into an uneasy toleration by constituted authority; and but a few more, again, linking up in time with the Roman Edict of Toleration promulgated in the early fourth century. It was then, of course, that St. Helena, the famous Roman Empress, so conveniently set permanent seal to the sites by erecting basilicæ over them. Sometimes such churches have been incorporated in Moslem mosques, and have suffered frequent changes of ownership between Islamic and Crusader custodian, but always there remains a trace of the early fourth-century

fabric as the original mark of authenticity. Much the same picture obtains at Nazareth.

For centuries now the Latin Church throughout the Holy Land has officially delegated its custodianship of the sacred places to the Order of St. Francis, whose Provincial residing in Jerusalem holds the title of Custos. And at Nazareth the Franciscans discharge their great trust with the same reverence and ableness, century after century, as they do elsewhere. Since mediæval times they have been guide, caretaker and host to millions of pilgrims of all races, creeds and ranks. The spot they venerate as the home of the Holy Family and workshop of St. Joseph forms a natural grotto in the sloping Eocene limestone upon which Nazareth stands. To-day the cave is incorporated in the vault of the magnificent Crusader church tended by the monks in their well-known brown habit, but its natural geological aspect has been pleasingly preserved. And the site satisfies our requirement for authenticity by having been acknowledged by the presence of a basilica by St. Helena, and by having enjoyed an unbroken chain of pilgrimage activity ever since. The arguments for the veracity of the site are thus very weighty indeed.

How did such solid evidence ever come to be challenged, we may ask? And what part, if any, could archaeological dowsing possibly play in sparing Nazareth such unseemly scandals as those that have so darkened the Holy Sepulchre site in recent decades? The challenge arose unexpectedly and easily enough. In about 1855 there arrived in Nazareth the advance guard, as it were, of a famous French Order of female Religious; the Dames de Nazareth. This order was new to Palestine, though by no means so to Europe. Nor had it ever claimed any connection in foundation with Nazareth; but since the Order had thus been dedicated in honour to such a place, it was decided to found in Nazareth itself a house of its own. The house was to devote itself as orphanage and school to the rescue of slave-girls, and permission was at once granted by the Latin Patriarch in Jerusalem for the necessary site to be purchased. The one selected lay some five hundred yards to the west of the Franciscan house and somewhat higher up the slope upon which Nazareth stands. Folk coming from the lower town, on their way up to the synagogue, would have to pass hard by it, and to-day the English Church is its immediate neighbour. The first clue became evident when the Sisters began to negotiate a purchase with the Moslem landowner. The price he asked was fantastic, even allowing Eastern barter custom. He declared, on protest, that the plot was the "tomb of a saint," and was thus holy ground; no price being too much to pay. There was no surface indication on the bouldery turf of any such remains, and eventually a very hard bargain was driven at the expense of the Order, and

the plot secured. No sooner, however, had the deep excavations commenced which were to carry the new foundations down on to the natural rock than dressed masonry was unearthed. The excitement of the Dames de Nazareth was only equalled by the consternation of the Franciscans and the chagrin of the former landowner. But there was nothing archaeologically unnatural in the physical disappearance of the buildings thus uncovered, since centuries of gradual avalanching by both natural and human agency from the Mount of the Precipitation above would rapidly engulf them. And it affords a valuable comment on the corroborative force of local traditions in the East, that legend still clung to the site despite a centuries-old rubble submergence dating from Arab times! The masonry thus uncovered resolved itself somewhat conglomerately into unmistakably ecclesiastical architecture of significantly early style. Traces of a mediæval church from the time of the Latin kingdom were superimposed as partly contiguous with a Byzantine basilica, and that, again, atop a chapel of actual Constantinian origin. And all this within refuse layers throughout which Roman, Byzantine and Arab glass and coins were prolifically distributed. Here was a pretty problem indeed. For what other site were the Constantinian Christians so anxious to commemorate, hardly an arrow's flight to the west of their other site down the slope?

Some clue to this last query arose subsequently when it was discovered that the vaults of the earlier building incorporated a natural subterranean grotto in the limestone of the same type as that beneath the other site to the east. Nineteenth-century Christendom was now obviously face to face with yet another spot sacred to its history. Could the Gospel narrative itself, or, indeed, any subsequent authority extant from ancient sources, throw any light upon its identity? Of these latter there naturally exists a prolific and well-authenticated class of MSS., chiefly in the shape of writings by pilgrims up to mediæval times. Those placing the most vivid emphasis upon Nazareth include the highly interesting reports of an otherwise unknown Saxon Bishop named Arculf, who described the sites during his visit in 670 A.D. The text of his letters inspired such confidence that the Venerable Bede was quoting them in full in his *De Locis Sanctis* (5) in 720 A.D., and they were also the chief sources drawn upon by Peter the Deacon, the twelfth-century librarian of the late lamented Monte Cassino monastery. Arculf is quite explicit upon the point that Nazareth possessed two churches founded by St. Helena, both of which he clearly describes. Yet, up to the nineteenth century, scholars had preferred to assume that Bede worked from a corrupt text rather than to cast around on the spot for the mysterious second building, this, despite modern local tradition in Nazareth, persistently corroborating the long-

dead Arculf. Further evidence then came to hand from the mediæval archives of the Benedictine Order, which shewed that they had had a house in Nazareth anciently whose precise location had for centuries been unknown. Certain of the mediæval masonry uncovered at the house of the Dames de Nazareth has undoubted Benedictine peculiarities. And so was rapidly constructed a chain of authenticating evidences across the centuries in support of the consistent veneration of the re-discovered site. But it is Arculf himself who in his very phraseology now clouds the issue. For he indifferently discusses each of the two churches he saw as alike connected with the home of Joseph and Mary, save that of one he adds that it became the reputed burial place of St. Joseph himself. And, in tantalising reply to this casual aside penned by one of our countrymen dim ages ago, there has been uncovered on the recent site two typical Jewish rock tombs, of first-century style, whose rock doors were still in situ!

There remained but one link absent from the chain of identity marks which was needed to associate incontestably the Dames de Nazareth site with an additional site for the home of the Holy Family as venerated up to 670 A.D. This was the evidence of the water supply! For, in his descriptions of the church associated with the burial, Arculf plainly states that water was pulled up to the church above by pulleys. And all excavation within the grotto had failed to reveal any traces of the vitally identifying spring. This precious link must at all costs be found. And no one realised this more clearly than did the Jesuit exergetes of Jerusalem's Pontifical Biblical Commission, to whom had been entrusted the archæological conduct of the new Nazareth site. This was the deadlock which existed up to the years 1942-1945, over which period I was myself the Commission's archæological guest on intermittent Service transits of both Jerusalem and Nazareth. And it was this location of the lost path of the elusive and historic spring, if indeed it were traceable on the new site at all, that now so clearly challenged this Society with whom I at all times took care to associate my work. Happily, a wide Service gossip throughout Syria had actively publicised a particularly fortunate run of dowsing luck, and I thus had no need to introduce my craft on unsympathetic ears.

If you look at your Baedeker for Palestine and Syria, under Nazareth you will see that the town to-day possesses but one spring. This must have been the state of affairs for many centuries, for pious mediæval conjecture has indelibly labelled it the "Ain Miryam" and its collecting head the "Sebil 'Iysa," after Mary and Jesus respectively. Doubtless, it was thought inevitable that the Holy Family had recourse only to this source. But down the slopes of the Mount of Precipitation itself runs the narrow, smelly road of Nazareth's market, and this, in a way

that reminded me of Clovelly, was paved with inclined steps. And canalised down the centre there bubbled and bounded a clear, chill surface rivulet from the heights above. To this day the Moslem bazaar folk use this for domestic use, and perhaps in less vigilant days it was used for culinary purposes as well. Having thus carefully positioned all obvious water as well as checked that there was no spring on the Franciscan site, I repaired with my Jerusalem credentials to the Convent of the Dames de Nazareth. H. V. Morton and Leslie D. Weatherhead have both observed, in their admirable books, that no one can get far in the East without a letter, and although the good Mother Superior, M. Lesecq, was, by hard experience, inured to most eventualities, a deal of hand-waving and of violent Arabic-French were expended ere her habitual politeness could rescue her amused astonishment. No sooner, however, was the true nature of our doubtful devilry made known than great excitement prevailed, and the whole House was mustered to help and to watch.

I first made a careful survey archaeologically of the ancient church buildings uncovered during the last century, and followed this up by an examination, from a geological point of view, of certain clay bands visible in rock pockets in the deep grotto. I decided that these last were unreliable evidence, as they might very easily be deluge-sediment from the plateau above. Familiar as you all are with dowsing tactics, I will not detail in full the operations which followed; suffice it to say that I was equipped, as usual, with a flat, whalebone rod, which I always carry in a wooden scabbard, and that I proceeded, I hope, along orthodox lines. I remember at the time doubting the value of my reactions, under conditions where the solemn import of the issue both thrilled and terrified, in surroundings where one is so naturally highly charged emotionally. And when the errant rod tugged and livened so unmistakably towards one corner of that historic cavern, I became pathetically careful and anxious. Checking and depthing had to be conducted from outside the rock, where the fresh Galilean breeze cleared the brain of incense clouds and one became calmer. And I resolved, with a great sigh of decision, that Arculf had indeed passed this way in those very Footsteps he was so carefully seeking. Months later, in the interval before my next visit, the Jerusalem workers delved painstakingly down through the layers at the spot indicated, where a distant quake had long since diverted Arculf's spring from its former course over the grotto's floor, and here they carefully welled its now sluggish, diffuse eddies for perpetuity.

Faced thus forcibly with the incontestable fact of two anciently venerated homes for the Holy Family, one turns instinctively back to the Gospel narratives for some clue that will explain the

persistent duplication through the ages of so sacred a spot. And, thus impelled, the clue has not been really hard to discover. I am disregarding some suggestions that according to Jewish law it would have been traditional for Mary to have resided in a different home at the time of her espousals, and that she would have gone to live in St. Joseph's home after. I ignore this point, because we are studying two distinct homes of the Holy Family, not merely a home of Mary and another home of Mary and Joseph. And this nice distinction is carefully preserved in all authorities and place-names down the ages.

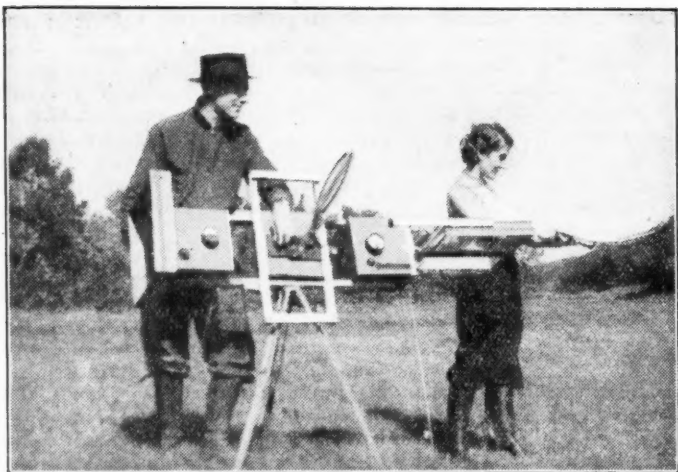
Our answer can, it is suggested, be found in the complex political background of the times as reflected in the New Testament itself. Some time in 4 B.C. we find Joseph and Mary having to leave their Nazareth home and go down to Bethlehem for the census. Despite the wide measure of autonomy enjoyed by the Jews at this time, we must remember that Herod held his crown as a tributary vassal of Rome. As such, the Imperial census edict of Augustus applied to his realms, including Galilee. And even although Roman law permitted Joseph and Mary to be accounted at Nazareth, the actual implementing of the *descriptio capita* had been placed in the hands of Herod and his officials. This meant employing the peculiar Jewish administrative machinery for the Imperial purpose, and it was for this reason that Joseph and his spouse had, in common with many similar classes of persons, to attend at the city of their lineal origin. This journey seems to have taken place early in the year in question, and the Evangelist tells us that Mary was already great with child. There is little real doubt that at the time of their departure Nazareth's carpenter would in fact have housed his workshop conveniently in the cool shade of one of the two natural grottos which exist there. And the humble mud-hut, long since dust, would doubtless have stood hard by its entrance.

At the time of which the Gospels speak, there remained to Joseph and Mary no kindred at Nazareth who could be trusted to look after their homestead whilst they were absent on the long and dangerous journey south. And the town must already have become an uncomfortable place for them to live in, as who can doubt that, as is the wont of little country towns, tongues had been wagging apace about the scandal surrounding Joseph's spouse. It was one thing for the husband publicly to profess himself now assured and content that his wife was beyond suspicion, but quite another for the narrow Jewish mind of first-century Nazareth to heed his wild tales of angels and visions. Is it not possible, therefore, that the Holy Family was planning never to return at all to this atmosphere? Startling as this hypothesis is at first sight, I want you to step with me down the Gospel pages a couple of years. Joseph, Mary and the infant

Jesus had been in hiding in Egypt from the mad jealousies of Herod. Joseph has been supernaturally assured that it is now safe to return across Sinai once more to their own land. Does it sound, from a careful study of the original text at this point, that he automatically and naturally made for Nazareth in Galilee again as a superficial reading might suggest? I submit that it does not. St. Matthew is explicit to the point that when Joseph "heard that Archelaus did reign in *Judaea* in the room of Herod . . . he *turned aside* into the parts of Galilee" and dwelt at Nazareth again to the north. The operative words on which this interpretation hinges, "turned aside into," are quite conclusive in the original Greek of all the ancient texts that have come down to us (*anekoreesen eis ta merree tees Galilaias*)—Matt. ii., 22-23. If you will glance at a map of the Holy Land, you will appreciate, perhaps for the first time, the spontaneous and sudden force of this language. To have been so definitely on the way to Judaea, presumably Bethlehem, that any "turning aside" could be involved, the family must have been well along the ancient Beersheba-Jerusalem caravan track towards Hebron when Joseph's warning came. He must then have struck across country north-west to contact the great Askelon-Joppa coast road. The family could then proceed north to the kindlier territories of Antipas, avoiding both Bethlehem and Jerusalem, where local authority might well have recognised them. I think you will see that this route is the only one accommodating itself to the use of the "turning aside" phrase. Had the family been following the coast road all the way to start with, via Gaza from the south and from Sinai, they would have already been directly en route for Galilee anyhow, and the Evangelist would more properly have said that they *continued* on towards their altered objective. It is, one feels, safe to assume, then, that the departure from Nazareth in 4 B.C. was regarded then by the family as a final one; and that the grotto and homestead of that time would have been handed over to other needs. It is most unlikely that upon the Holy Family's return in 2 B.C. they would have been able, or disposed, to dispossess their successors. By this chain of reasoning, we are face to face, then, with the inevitable need for two distinct spots, as recognised by St. Helena, and discussed so impartially by Arculf.

---

(The lecture was illustrated by Roman and Herodian coins excavated on the spot, which were exhibited by the lecturer from his own cabinets. The exergic side of the talk was illustrated by the lecturer's collection of well-known Bible texts, an incunabula Vulgate, original Beza text, Breeches Bible and first Authorised Version).



PROSPECTING FOR GOLD WITH RADIO MINERAL LOCATOR AND DIVINING ROD.

## DOWSING FOR GOLD IN WALES

BY V. J. DUMERT, A.M.I.R.E.

Recently, a trip was organised with the object of prospecting for gold in Merioneth, the only locality in the British Isles where gold has been mined on a commercial basis. The gold occurs there in small but exceedingly rich pockets, and conforms to no general geological system by which these pockets may be located; they are quite sporadic.

The search for the lode in the past meant laborious and systematic boring into the Lingula Flags, which are comparatively hard, slaty rocks. The gold-bearing quartz veins are found embedded in these. The money and time involved in making trial boreholes at every few yards over a large area of land in order to be sure that the confined auriferous veins are not missed would be an entirely uncommercial proposition, since a pocket of gold, when found, could not be expected to extend for any great distance, and may yield anything from a few pounds value of gold to £10,000 worth. The rich strike of the St. Davids and Gwyn-fynydd mines, which are reputed to have produced nearly £100,000 worth of gold between them, stimulated the search for the lode. However, other pockets of gold were found in the district, but none of such extent as the above-mentioned

lodes. The ore in these pockets, when found, is richer than the Rand ore, but they are not numerous enough to make a large-scale prospecting proposition a paying one.

Nearly forty years have elapsed since the last active gold mine worked out its "bonanza" there, and little or no prospecting has been done to date. But as it is a question of the difficulty of prospecting for the metal and not the difficulty of mining when it is found that has proved the bug-bear in the past, the reader will understand the significance that ought to be attached to any method whereby one could locate gold without employing the costly process of trial borings.

The rich pockets have never been found to occur at great depths in this district, and there is considerable scope for the dowser who is gifted with the power to "feel" the metal.

For many years work upon a satisfactory type of ore locator has been going on at my private laboratory. An instrument has now been devised which gives satisfactory results over a limited field. It functions on the principal of transmitting electromagnetic waves in such a plane that only those waves reflected from metallic ore in the vicinity are picked up on the receiving part of the apparatus. A visual and oral indication is then provided for in the instrument. Another modification which we have now introduced is a second receiving loop which is tuned to a harmonic of the fundamental wave, and by this means a degree of discrimination between the kind of ores may be obtained.

Whilst full scale tests were recently being made in the Gold Belt\* with this instrument, Miss Irene Derrick, who had previously never handled a divining rod, made a few trials with the hazel twig after watching another member fail to get a reaction over a site where the radio locator had given indications of the presence of gold. She got a violent reaction, the hazel twig oscillating up and down very definitely as she repeatedly walked across the site. Personally, I was rather sceptical at the time, but subsequently the fact was proved beyond doubt. On later occasions, I told her I had obtained a reaction with the radio-locator when, in fact, no ore appeared to be present. She never once obtained any movement of the twig on these occasions. At two different places, widely separated, I got a strong indication on the instrument, but informed Miss Derrick to the contrary. She obtained a reaction in the one case and none in the other.

Since our return to London, we have had more time to think over and to discuss the results of our trip. It appears that some of the time Miss Derrick was wearing a gold ring. As far as she can remember she was not wearing the ring when she failed to

---

\* Dolgelly Gold Belt, an area covering approximately 25 sq. miles in which the famous gold-bearing lodes have been found.

get a reaction in confirmation of the radio-locator's indication. It was unfortunate that the apparent significance of the ring was overlooked at the time.

More prospecting work is to be carried on next year, and careful tests will be made to ascertain what effect the ring has, if any, on her reactions.

Curiously enough, she obtained no reactions on any other minerals such as copper, bismuth, iron or zinc ores which were proved to be present, and apparently she cannot divine water.

This may be an extraordinary phenomenon, and one not usually encountered in the dowsing world.

---

## GEOPHYSICAL PROSPECTING AND ENGLISH OILFIELDS

*Reprinted from Nature of December 28th, 1946, by permission of  
the Editors*

At a geophysical discussion on English oilfields, held at the Rooms of the Royal Astronomical Society on November 22nd, a large attendance demonstrated the interest aroused by the geophysical methods which have been widely applied in the intensive search for oil in Britain over the past ten years.

Dr. J. Phemister, in opening the discussion, gave a general account of the types of structure in which oil may be found, of the distribution of such structures in England, and of the geophysical methods employed in their detection. The types of structure possible in England include the stratigraphic trap, the closed anticline or dome, and the traps against an unconformity or a fault. In each case the porous stratum which is a potential oil reservoir must be sealed off by impermeable rock against both vertical and lateral dissipation of fluid, and the seal must have remained effective. In considering the distribution of structures which might act as oil-traps, the field of inquiry may be limited to those geological formations which provide some indication of the presence of oil. Such indications include seepages, gas-escapes, oil-impregnations, elaterite veins, and bituminous coatings in fractures and joints. The formations suggested by such signs as worthy of consideration are the Wealden and Corallian of the South of England, the Coal Measures, Millstone Grit and Carboniferous Limestone of the Midlands, and in Scotland the Calcareous Sandstone Series. From a well, at Hardstoft, in the Carboniferous Limestone, more than 3,600 tons of oil had been obtained in the years 1919-38. To these possibilities the Magnesian Limestone of Northern Yorkshire has

recently been added, as a considerable gas-field in it has been proved by boring.

Closed anticlines in the Corallian and Wealden of Southern England have now been extensively tested, but no oil-field has been found. The main purpose of geophysical survey in this region would be to locate structural crests in Mesozoic strata below a cover of Tertiaries, and to determine the depths to the Palaeozoic platform against which the Mesozoic strata overlap unconformably.

Structures in Carboniferous strata west of the Pennine Chain have so far proved non-productive, but east of this line four small oil-fields have, since 1939, produced more than 300,000 tons of oil. They occur in closed anticlines in Millstone Grit which are concealed from surface observation by a thick unconformable cover of Jurassic, Triassic and Permian sediments. The structures were located principally by seismic survey, and this discovery represents a great achievement in the application of quantitative methods of refraction surveying on the part of the geophysical staff of the Anglo-Iranian Oil Co. In the search for similar oil-bearing structures, geophysical surveys have been extended over wide areas of Lincolnshire, Nottinghamshire and Norfolk. Many structures have been found, which, although they have not been productive, are thought to indicate possibilities which should not be neglected.

In prospecting for concealed structures of the kind in question, two classes of geophysical survey—the gravitational and the seismic—are of particular value. Gravitational survey may be carried out by the Eötvös balance or by the gravity meter (gravimeter). The latter, being more rapid in operation and requiring less laborious corrections, is more suited to reconnaissance survey, and has been extensively used in England by the oil companies. This instrument measures the amount by which  $g$  changes between a base station and other stations distributed over the area to be surveyed. Corrections for latitude, altitude and, when necessary, terrain are applied, and from the corrected observations a chart showing contours of equal difference in  $g$  (isogams) is prepared. The isogam chart shows the positions of local gravity maxima. These may be rendered less apparent but cannot be obliterated by regional changes.

Interpretation of gravitational surveys is based on the fact of experience that, close above the crest of a dome formed in a normal series of sediments, the force of gravity reaches a local maximum value. Similarly, above the position where an unconformable platform of old rocks comes nearest to the surface, gravity attains a maximum. Between these two structures, fundamentally different geologically, gravitational survey may

not be able to discriminate, but it will supply the information necessary to decide the position for a boring which will prove the nature of the rocks in the concealed structure at least expense.

Seismic surveys also may be carried out by two methods. In the reflexion methods, depth to a bed which is accepted as an areal marker is deduced from the time elapsing between the firing of a shot at the surface and the arrival of the wave reflected from the bed. The method has not proved reliable in investigating the presence and depth of the Carboniferous Limestone in England. The refraction method, on the contrary, has proved capable of contouring the top of this formation with considerable precision, and its predictions have been checked by boring. Refraction survey may be carried out by the procedure of arc-shooting, in which the seismographs are stationed on the arc of a circle of about two or three miles radius and centred on the shot-point. Anomalously short travel-time signifies the approach towards the surface, along the radius concerned, of a high-velocity medium. By shooting a number of arcs, the interesting area can be delimited. In straight-line shooting, the seismographs are set out on a line through the shot-point, and the time-distance graphs constructed from the observations yield data for calculating the depth to the refracting interface and the average velocity of the waves in the overlying and underlying rocks. The velocity is to a considerable degree diagnostic of the rocks, as the following figures, provided by Mr. R. Davies, chief geophysicist, Anglo-Iranian Oil Co., show: Keuper Marl, 7,600-9,000ft. per sec.; Coal Measures strata, 12,000-14,000ft. per sec.; Carboniferous Limestone, 18,500-19,500ft. per sec.

A gravitational survey at present in progress in the region between Bristol and London, and the results achieved up to date, were then described by Mr. L. H. Tarrant, of the geophysical staff of the Anglo-Iranian Oil Co. Ltd. The instrument in use is the Frost gravity meter, which consists of an air-damped box-beam carrying at one end a gold weight and at the other a drum to compensate air-buoyancy. A frictionless pivot is effected by a ligature device. The beam is suspended by a main-spring which is attached to the framework vertically above the axis of rotation of the beam and is in an almost astatised condition. By raising or lowering the point of attachment of the mainspring, the beam is set for the average value of gravity of the region which is to be surveyed. Observations are made by reading on a divided dial the rotation required to increase or decrease the tension on a reading spring required to return the beam to the null position corresponding to an arbitrary zero of gravity anomaly at a station accepted as the base station of the survey. The divisions of the dial are calibrated by reading at stations between which there is a known

difference of gravity. An instrumental correction must be applied to the observations for drift of the zero; this is determined empirically by re-occupying an earlier station at two-hour intervals, and applied on the assumption of a linear change with time. Temperature correction is eliminated by thermostatic control of the instrument. The sensitivity of this gravity meter is rather better than 1/50 milligal (0.000,02 cm./sec.<sup>2</sup>), and the probable error of an observation estimated from a number of observations at individual stations is 1/30 milligal.

The area which it is intended to survey covers about 5,000 square miles and overlaps in the south-west the locus of a gravity meter survey south of the Mendip Hills carried out earlier by the Gulf Exploration Co. Ltd. About 2,000 square miles have been covered and nearly four thousand stations occupied. A magnetic survey has been run concurrently, but not with such detail, 850 observations having been made. The chart of isogams constructed from the observations corrected for difference in latitude, elevation and, in some cases, terrain, reveals a regular disposition of maximal and minimal areas of gravity anomaly. On the west, high values of gravity are conspicuous and are readily correlated with the Mendip anticline and the partly concealed outcrop of the Carboniferous Limestone along the eastern flank of the Bristol basin. The Mendip axis can be traced under cover of the Mesozoic strata as a long spur of diminishing gravity anomaly, and low maximal ridges indicate its continuation as a line of minor importance which curves east and then east-south-east beneath the north margin of Salisbury Plain.

The most remarkable and unexpected feature of the isogam chart is a deep trough of low-gravity values extending in a south-north direction approximately through Cirencester. From this axis, gravity increases steadily and rapidly eastwards, and the chart shows a plateau of high gravity, with two broad maximal areas between Oxford and Swindon and north-west of Oxford. Magnetic anomalies show a similar areal disposition of high and low values, but the maxima are considerably displaced from the gravity "highs." No geological interpretation of these significant gravity anomalies is being put forward at present by the Company's scientific workers, who hope to obtain complementary data by the application of seismic refraction methods of survey. It is, however, of interest and importance to recall that a boring at Burford reached Coal Measures at 1,200ft. from surface. The difference found by the gravity meter between the values of  $g$  at Bristol and Oxford is 8.5 milligals, the difference by pendulum measurement being 10 milligals.

The rate of survey by gravity meter is high in a country so well provided as England with good roads and with bench-marks,

spot-levels and contours. The instrument can then be transported rapidly from station to station in a motor-car, and little time need be spent in surveying station sites for exact position and elevation. The average area covered each day in the survey described by Mr. Tarrant was 10 square miles, and the average number of stations occupied was nineteen. In countries poorly provided with topographic maps progress is very much slower; and where the ground conditions are difficult, it is estimated that to keep the gravity meter fully employed the services of three topographic surveyors are required. The instrument itself is easily portable, being of small bulk, moderate weight (35lb.) and possessing a reliable system of clamps.

Mr. Tarrant was followed by Mr. J. E. R. Wood, also of the Anglo-Iranian geophysical staff, who described, in illustration of seismic refraction survey, an investigation which has just been carried out in North-East Yorkshire. The object of the survey was to study the Magnesian Limestone, which was already known to occur at 2,400ft. in a boring one mile south of Redcar. To obtain basic information, the seismic survey was begun by carrying out a line-shoot as near as possible to this boring and orientated parallel to the probable underground strike of the limestone. It was found that the limestone acted as a refracting medium transmitting waves with a velocity of 19,500ft. per sec., and that the average velocity in the overlying strata was 11,800ft. per sec. From inspection of the time-distance graph and the amplitudes of the pulses, which were becoming weak at 15,000ft., it was decided that the main survey by arc-shooting would be most effectively carried out using a radius of 14,000ft. A system of arcs was then laid out, and in order to avoid distortion of the arc-time profile, the shot-points were located suitably to the inclination of the refracting medium, so far as this may be indicated by the contours of the base of the Rhætic series.

From the results of arc-shooting, time-contours of interval 1/100sec. were constructed over the area from the sea to Upleatham Hills in the south and between Marske and Grangetown. The contours revealed a dome in the Magnesian Limestone below the southern outskirts of Redcar, and a bore has since been drilled. The difference in depth of the limestone in the two borings differed from that calculated from the seismic results by only 40ft., a length representing 3/1000sec. It is of interest to note that the system of arcs and lines shot over the area contained three closed polygons, around which the sum of the time differences was small and less than the limit of accuracy of measurement. This fact indicates that the pulses employed came from the same stratum throughout the survey, and that there was no significant changes of velocity in either the refracting medium or the overlying strata. In extending the survey southwards, difficulties in interpreting

the results were encountered, and are ascribed to (a) distortion of arc-time profiles when shot across troughs and, possibly, faults in the limestone; (b) the possibility of change in the true velocity in the refracting stratum; and (c) the possibility that the pulses did not arrive from the same bed on reversal of the direction of shooting.

In opening the general discussion which followed the formal contributions, Prof. V. C. Illing stressed the distinction between finding structure and finding oil. Suitable structure is necessary, but of as great importance to the main issue is the geological history of the strata in which oil is sought; and in assessing the oil-bearing potentialities of a region, as great consideration must be devoted to this aspect of the problem as to the discovery of structure. While there can be no question that certain British rocks had contained oil, is it to be expected in the light of their past geological history of severe folding and rupture that they now retain sufficient to repay the expense of intensive search? Prof. Illing said he had some years ago expressed his dubiety, and he continued to be dubious of an affirmative answer to this question. Regarding the purely geophysical aspect of the search for oil, one marvelled at the precision of predictions based on the results of seismic refraction survey. He was puzzled, however, by the failure of the reflexion method to yield reliable evidence of the Carboniferous Limestone, and would be greatly interested to know what explanation might be adduced.

The production of considerably more than 300,000 tons of crude oil, which has already been attained was mentioned by Prof. A. O. Rankine, who emphasised the importance of the part played by geophysical survey in this achievement. While the evidence from borings and mining for coal had indicated the possibility of a fold near Eakring, it was by geophysical survey by the seismic refraction method that the existence of a closed structure in the Carboniferous Limestone had definitely been proved. He left it to Mr. Wyrobek to discuss the failure of the reflexion method. Referring to the interesting nature of the gravitational anomalies between Bristol and Oxford, he hoped that it would be possible for the geophysicists of the Anglo-Iranian Oil Company to investigate by seismic refraction tests the buried structures which had been indicated by the gravity meter surveys. Mr. Wyrobek then put forward his view that reflexion of compressional waves is most efficiently effected when the high-velocity medium is comparatively thin and is, so to speak, suspended in low-velocity strata. He believed the lack of success in detecting the Carboniferous Limestone by seismic reflexion survey was due to the massive character of the limestone, which absorbed a high proportion of the energy. He pointed out, also, that it is covered by strata of Millstone Grit and Coal

Measures age, which have fairly high velocity characteristics. In contrast to this purely physical explanation, the suggestion was made by Prof. W. G. Fearnside, and supported by Prof. O. T. Jones, that the existence of a transition zone of interbedded limestones and shales between the Millstone Grit strata and the massive limestone may be responsible for the confusing and baffling reflexions.

In reply to a question by Mr. Wyrobek whether the accuracy of prediction of depth of the Magnesian Limestone from refraction shooting had been tested in the Redcar area, Mr. Wood said that the discrepancy between prediction and boring data was 50ft. at 2,120ft. depth.

Dr. E. C. Bullard, in closing the discussion, directed attention to the fundamental advances which are being achieved alike in the study of the concealed geological structure of England and of the correlated magnetic and gravitational anomalies, and in the development of precise instruments of physical research, as a consequence of the quest for oil. The honours in the contribution of data fundamental to the elucidation of structure in England were evenly divided between the American and British oil companies. He would himself be interested to know whether Kater's pendulum station at Arbury Hill had been occupied in the gravity meter survey in the Oxford district, and Mr. Tarrant stated in reply that while this station lay considerably beyond his survey, the desirability that the gravity meter survey should be linked with absolute measurements of gravity was being constantly borne in mind by his Company's geophysical staff.

The immense saving of time and money which might be effected by scientific dowsing can be readily appreciated from a perusal of the above article.

See also another article reprinted from *Nature* entitled "British Oilfields" on page 263, *B.S.D.J.* VI, 50.

For some account of geophysical prospection see the review on *Applied Geophysics* by H. Shaw, D.Sc., A.R.C.S., F.Inst.P., on page 388, *B.S.D.J.* II, 16.—Editor.

---

## ARCHAEOLOGICAL DOWSING

In the *B.S.D. Journal* for March, 1941 (page 111), there was an all-too-brief reference to a remarkable example of successful dowsing for buried masonry performed in 1938 by one of our members, Mr. L. J. Latham, at Kensington Barracks. The note was compiled from a short notice in the *Observer* of February 11th, 1940, but a much more complete account, unknown to the Editor, had already appeared in the *Journal of the Royal Army Service Corps* for June, 1938, and it is from this more fundamental source that the following further information has been obtained.

Kensington Barracks are situated on a plot of War Department land at the south end of Church Street, Kensington, and on the east side. About ten yards beyond the north-east corner of the barrack site there formerly stood a brick conduit house, which was replaced years ago by a Victorian so-called replica.\* The function of this conduit house appears to have been the control of a spring of water through culverts, one of which provided a supply of pure water to a house called Chelsea Palace, which had been built by Henry VIII as a residence for his children.

There had been an unconfirmed tradition that another culvert led to Kensington Palace, but this had always been officially discredited. Mr. Latham was, however, able to confirm, after careful investigation, that such a culvert did actually exist, and has formed the opinion that the spring's output was tapped or supplemented by Nottingham House, as the Palace was called before Wren's alterations, for he traced a culvert of later construction than that leading to Chelsea Place, uniting the latter with a complicated network of brick waterways beneath the Palace.

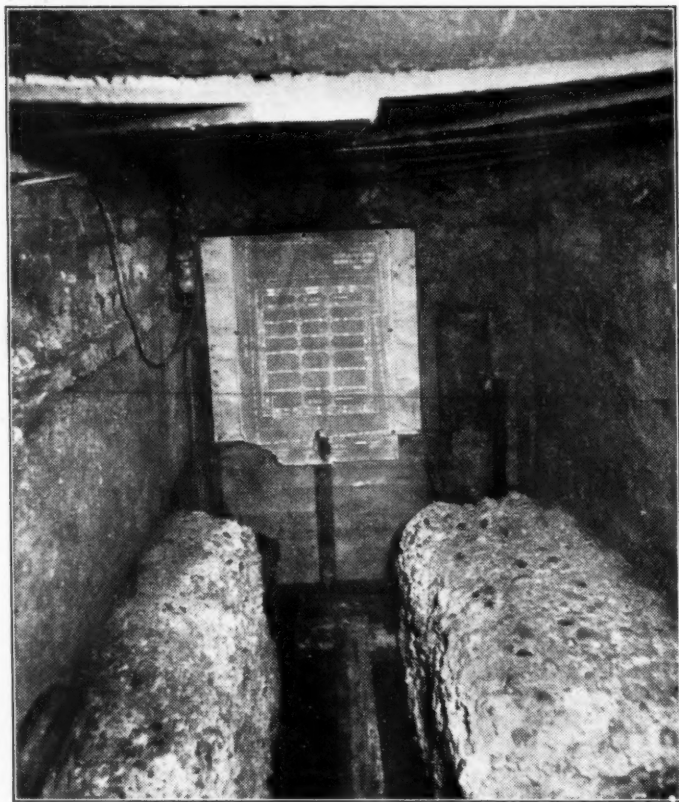
It is interesting to note that in 1935, when a Victorian Jubilee Memorial was removed from the junction of High Street and Church Street, a sudden settlement revealed a broken portion of the Chelsea culvert which traversed this spot. Unfortunately, the work was sealed up with such dispatch that no proper archaeological examination of the ancient masonry could be made. It appears, however, that the structure was man-size, of perfect Tudor brickwork, and wide-roofed in the Perpendicular style, except for a slightly pointed apex.

From this discovery Mr. Latham concluded that the culvert could hardly have avoided the site of Kensington Barracks to reach its destination at Chelsea Place, and to trace its exact path the use of the divining rod was suggested to him by (the then) Captain H. C. Davis, R.A.S.C.

Accordingly, Mr. Latham, using a sample of red brick, succeeded in tracing the course of the culvert for a considerable distance; but he found that instead of proceeding direct to the site of the Victorian Memorial the culvert made a peculiar diversion as if it were hugging the line of an unexpected obstacle, and then resumed its original alignment.

Mr. Latham then turned his attention to the unknown obstacle. He at once realised that it was not of brick, as no reaction was obtained when a brick sample was used. Samples of other material were tried with the same result, but reactions were obtained only when bare rods were used. The obstacle was

\* An engraving of the interior of the original conduit house can be seen in Faulkner's *History and Antiquities of Kensington*, 1820.

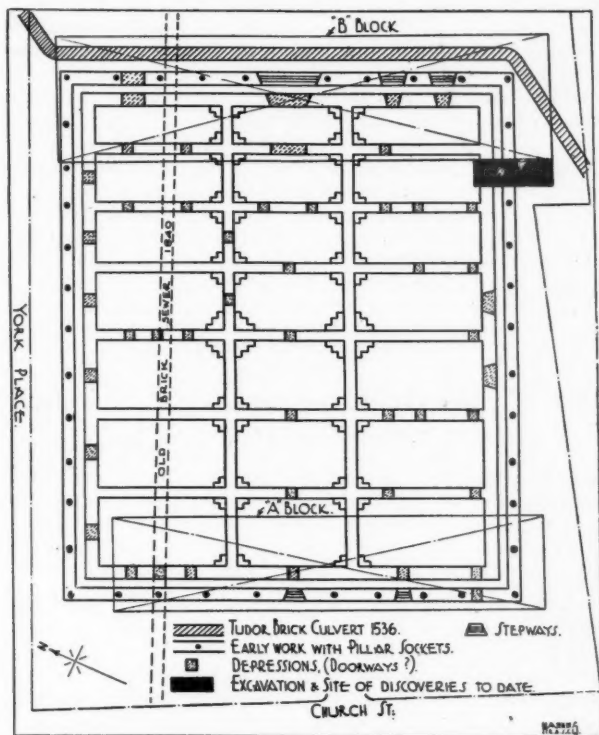


EXPOSED DOUBLE CONCRETE WALL. THE MASONRY ABOVE IS PROBABLY CONTEMPORARY WITH BUILDINGS OF THE "KING'S ROYAL FORCING GROUND."

traced step by step, and suggested a large rectangular network of foundations, about 190 by 210 feet in extent, with walls about four feet thick. Fortunately, a portion of the double outer wall ran below an unfloored basement at the south end of the eastern barrack block in which excavation was possible, and, in due course, at a depth of seventeen feet, a double concrete wall was actually uncovered.

In the course of excavation some interesting objects were

brought to light in the shape of a testoon (shilling) of Henry VIII, a silver penny of James I, a bone knife-handle inscribed 'Clapham,' and pieces of oak timber.



PLAN OF SUPPOSED ROMAN MASONRY AT KENSINGTON BARRACKS  
SHOWING DIVERSION OF TUDOR CULVERT AS REVEALED BY DOWSING.

As might be expected, there were traces of more than one period of occupation. Odd portions of ancient stonework and fragments of late Stewart brickwork, probably contemporaneous with the period when the site formed part of the kitchen garden of the adjacent palace, were unearthed. In the earliest available plan of the site, a map by Rogue of 1745, the plot is marked "Kings Royal Forcing Ground," so the latest stratum may contain the remains of William III's conservatories.

The deflection of the culvert from the direct line clearly indicates

that the existence of the concrete foundations was unknown to the Tudor engineers, as no one with an elementary knowledge of hydraulics would have intentionally introduced an unnecessary double bend into a conduit for water.

There appears to have been difference of opinion regarding the date of the concrete foundation walls amongst the numerous archaeological experts who examined them at the time. But the fact that the existence of these large obstructions was unknown in the XVIth century, and that the use of concrete died out with the decay of Roman civilisation in Britain and was not resumed till comparatively recent times, is strong reason for assuming that the remains are of Roman construction.

It is to be hoped that when the barracks, which before the war were due for demolition, are pulled down, further areas of the foundations will be revealed. It may then be possible to arrive at a close idea of the date at which the walls were constructed and the object for which the building was designed.

---

## THE "F" OR FRINGE BANDS OF A STREAM

By L. B. MACEWAN, B.Sc., A.M.I.E.E.

While carrying out an examination, by divining rod, of the area surrounding a Scottish *surface* stream, the author found what is believed to be a hitherto unnoticed series of bands. These have been named "F" or fringe bands, and an account of the experiments which led to their discovery follows.

Before commencing work, all theories regarding dowsing and dowsing phenomena were discarded, and the problem was tackled without prejudice or bias. The cause of the movement of the rod was assumed to be unknown, nor, for the time being, has any suggestion been put forward as to the reason for this.

It will be observed that new symbols different to those ordinarily used have been introduced. This was done in order to differentiate between zones lying parallel to, and transverse to, the stream. "R" stands for rise, a zone where the rod rose, while "D," meaning dip, a zone where the rod dipped, has been used in place of N. The suffix P or T following R or D indicates that the zone or band lies parallel to, or transverse to, the stream.

A light whalebone rod was used as detector, and this was always held in the same way, namely, with the apex pointing towards the body. Any remarks regarding dip or rise of the rod which follow therefore refer to this type of hold.

It was found that:—

- (1) There were zones in the neighbourhood of the stream

where the rod rose, and other zones where it dipped. These zones were found to alternate, a zone rising being followed by a zone dipping.

- (2) There were two sets of these zones or bands. One set, RP 1, DP 2, etc., ran parallel to, and the other RT 1, DT 2, etc., transverse to, the stream.

The two sets of bands were carefully marked by pegs, and lengths of string were stretched between the latter, so that a pattern was formed which could be clearly seen against the ground.

A detailed examination of the pattern was then made with the rod. This was done by standing in turn in the centre of each of the squares, and observing the rod reactions when facing to X, Y, W, Z. Close to each of the words rise or dip is an arrow indicating the direction faced when the reaction occurred.

A stand was now made in the centre of area C facing X. On side-stepping to the left, a zone, FP 2, was found where the rod dipped, although it rose to either side of this. The width of the dipping zone was about five inches, and it ran parallel to and along the whole length of RP 2. This zone has been called a fringe band. On walking along it from *a* to *e* while facing X, the rod dipped, rose, then dipped again.

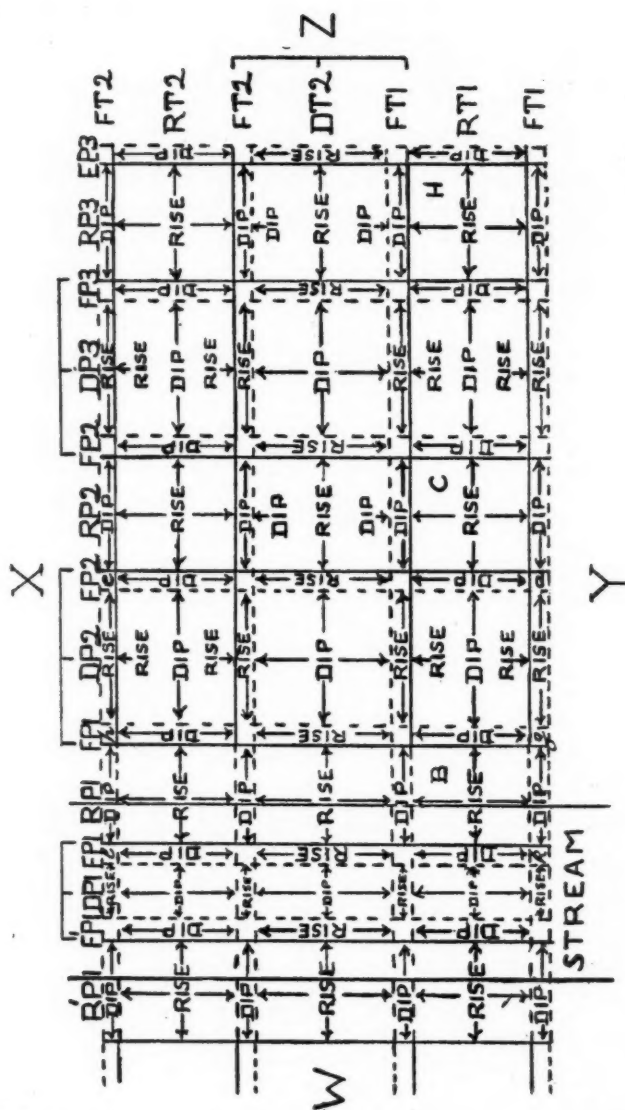
It was later found that:—

- (1) Every RP band had a fringe band (FP) to either side of it, and each fringe extended into the area of the neighbouring DP band for a distance of about five inches. (See remarks below regarding special case of RP 1).
- (2) Every RT band had a fringe band (FT) to either side of it, and each fringe extended into the area of the neighbouring DT band for a distance of about five inches.

It was at first thought that there was no fringe band to the left of RP 1, as a difficulty arose in testing for this by side-stepping. This was due to the fact that reactions between RP 1 and DP 1 go from rise to dip, instead of the usual rise to rise or dip to dip. The same remarks apply to the centre portion of the other FP 1 fringe lying to the right of RP 1. The presence of these FP bands can, however, be confirmed by testing reactions when walking from *k* to *l*, wading in the stream, and from *g* to *h*, while facing X.

It should be understood that the fringe bands do not, strictly speaking, *separate* the R bands from the D bands.

They might best be regarded as parts of the RP or RT bands which encroach into the DP and DT areas. Note, too, that when walking along the FP 1 bands from *k* to *l* or from *g* to *h*



while facing X, no reactions were felt from any of the transverse fringe bands.

Suppose now that one started to peg the R P bands of a stream and chanced to start walking from and within area B to area H, then the reactions obtained would be rise, dip, rise, dip, rise. Should it be necessary later to re-check the position of the R P bands, and should one this time happen to alight on one of the transverse fringe bands, and walk along this, then reactions reverse to the former would be experienced. It might thus, at first, appear as if the R P and D P bands had interchanged positions, when actually no such change had occurred. Genuine reversals were nevertheless experienced at times.

If the diagram is studied it can be seen that:—

- (1) The rod rose, irrespective of the direction faced, in the centre of an area formed by an R P band crossing over an R T band.
- (2) The rod dipped, irrespective of the direction faced, in the centre of an area formed by a D P band crossing over a D T band.
- (3) The rod rose, irrespective of the direction faced, in any part of R' P 1 and R P 1 (streambands) except when standing over a transverse fringe band facing W or Z.
- (4) The rod dipped in any part of D P 1 (dipping band situated about mid-stream) except when standing over a transverse fringe band facing W or Z, or on facing X or Y when standing over those portions of F' P 1 or F P 1 (to left of R P 1) which lay between the boundaries (extended) of a D T band.

Note that the undulations of the R T and D T bands were not felt when walking along parallel to the stream, within the streambands.

These statements hold good for a surface stream of medium width, with low banks.

It will be seen that the ground pattern of a surface stream appears to be of a most complex nature, being built up of:—

- (1) Bands of reaction (rod rising) running parallel to, and transverse to, the stream, each with their associated fringe bands.
- (2) Bands (rod dipping) running parallel to, and transverse to, the stream.

When a Creyke's point (a crowbar five feet in length was used) was erected within R P 1, the following effects were observed:—

- (1) The R P and D P bands interchanged positions.
- (2) The R T and D T bands interchanged positions.
- (3) The rod when over those portions of the fringe bands (both parallel and transverse) where it had previously dipped, now rose, and vice-versa.

## HOW A PENDULUM CAN HELP THE SHOEMAKER

BY N. MACBETH

Monsieur Edouard Cabu, of Namur, shoemaker, makes good use of the diviner's pendulum. By this instrument, which intensifies the "sixth sense," Cabu can tell poor quality hides from good. To any skilled diviner, this is not extraordinary. All one needs is special training, from which each given pendulum reaction comes to have a specific meaning. The "method" employed by M. Cabu is the detection of "fundamental rays," discovered more than twenty years ago by the French engineer, Henri Mager. In the case of hides, a ray detected as passing north is produced by a sample of the best quality of hide.

Tanners, shoemakers, and all skin dealers, can gain from M. Cabu's experience. In order that this article may interest non-diviners, let it here be explained that a sample of any substance produces gyrations of a pendulum held over it. The gyration corresponds, and is due, to the sample's qualities. In addition, the same gyration is produced along a line in space departing from the sample. The direction taken by this line, where gyrations continue, is that of the sample's "fundamental ray." A north ray, it has been already said, indicates the best quality of hide. M. Cabu wrote about a series of tests of hides in *Radiesthésie pour Tous*.

Here are the fundamental rays produced by thirteen different samples taken to illustrate his analysis:—

Sample No.	Tanning Process	Part of Whole Hide	Fundamental Ray. (Magnetic Orientation)
1	oak bark, unrolled, crude	butt, centre of	N.W.
2	extracts and acid, rolled	butt, nearer belly	S.W. to S.S.W.
3	bark, as No. 1	ditto	W.N.W.
4	extracts (and found acid), rolled	ditto	W.S.W. and S.W.
5	extracts, as No. 4	ditto	W. and S.W.
6	extracts, as No. 4	butt, fore end	W.
7	extracts and bark, ditto	butt	W.N.W. and W.
8	ditto, ditto	ditto	more W.N.W. than W.

<i>Sample</i> No.	<i>Tanning Process</i>	<i>Part of</i> <i>Whole Hide</i>	<i>Fundamental Ray</i> ( <i>Magnetic</i> <i>Orientation</i> )
9	more bark than extract, ditto	ditto	W.N.W. and W.
10	extra quality ex- tract, ditto	ditto	more towards N.W.
11	extract extra quality, ditto	ditto	N.W.
12	bark, as No. 1	butt, near the side	N.N.W. and N.W.
13	bark, as No. 1	butt	nearly N.W.

Different qualities are denoted by directions of fundamental ray.

The best wearing qualities, M. Cabu's experience affirms, are indicated by north.

Why do Nos. 1, 3, 12 and 13, though parts of the same hide, radiate differently? Because the tanner's tests have been concentrated on quality alone. But No. 1 cut from the middle near the spine is certainly stronger than No. 12 coming from the side. No. 13 comes from a part near the lower portion of the fore end near the neck, a pleated portion of the skin.

No. 1 is superior to No. 11 because this latter is tanned by extracts of extra quality.

Both 1 and 11 are of good quality. No. 1, which is bark tanned in the old way, is not softened by being rolled through steel cylinders to give the hide a dull shine. There is one side flesh and the other side skin—the crude hide is rough and not rolled in this way.

The extracts are dressings which give skins, after they have been tanned, their final appearance and quality. If only appearance counts, No. 11 (N.W. rays), which has a smoothened surface, will sell better than No. 1 (N.W. rays also); but No. 1 is really superior, for when it is primed during *beating*, it stretches in both width and length, so that one can cut soles and heels smaller than the pattern. A leather is primed when it is neither too supple nor too dry after being soaked a certain time in water, and then it has a certain moisture suitable for the rolling or the beating intended to tighten the pores and give the leather greater durability.

From the tanner's point of view, No. 11 (best extracts used) is the best quality, for it is a fine example of treatment by extracts, the use of which makes the tanning process of much shorter duration than it is when bark is used.

No. 4 (W.S.W. and S.W. on test), looks very much like No. 2 (S.W. and S.S.W.), but the former contains less acid.

The tests appear to Monsieur Cabu to show that a greater quantity of extracts in the tanning process produces a ray more north. The greater use there is of acid during the dressing process, the more the ray veers towards south. (Acetic acid, as vinegar, soaked in blotting paper, to provide a sample of this, produces a south ray).

The samples tested, M. Cabu concludes, show their superiority in the following order (commencing with the worst): 2, 4, 5, 6, 7, 3, 8, 9, 12, 10, 13, 11, 1. But it will be observed from the results recorded on the earlier table that both No. 11 and No. 1 produced N.W. fundamental rays; how, then, know the better? To differentiate between them Monsieur Cabu proceeded as follows: Flat, and at the centre of a Mager coloured rosette, he laid a horse-shoe magnet with both its branches pointing north. Each sample in turn was placed across these branches. When this was done, the better sample gave the more northerly ray. No. 1's wave was then slightly N. of West, but No. 11's was slightly S. of West.

If it is necessary to test a big piece of hide, this is how one proceeds: After the rosette has been laid properly with its violet due north, lay the piece south of the rosette and there "tune" the pendulum over it. Then lay on the hide a horseshoe magnet with its two branches pointing towards north, the axis of the magnet aligned to the rosette's centre. This being done, find the fundamental ray over the rosette in the usual way.

More accurate results are obtained when the rosette has the 360 degrees marked round it, its diameter being as much as 12 inches.

By similar means, M. Cabu adds, it can be seen whether a hide has been treated (so as to weigh more) with sugar, starch, glue, lead acetate, or anything which dissolves out during the damping process. Such an investigation is more valuable for tanners than for shoemakers. If one wants to analyse the extract used for tanning, all one has to do is to let the hide soak, to beat it well, and so extract the liquid. This liquid can then be analysed for the tannin it contains. The extracts used in an industrial tanning process, which are mainly produced in Britain and America, consist of shavings of oak bark and of chemical (not natural) tanning agents. The home tanner is advised by Monsieur Cabu to try using as a tanning agent the bilberry (whortleberry) found on high-lying heaths.

## PART TWO

### DOWSING FOR THE SIMILLIMUM\*

BY GUY BECKLEY STEARNS, M.D.

*Reprinted from The Homœopathic Recorder (California) for August, 1946, by permission of the Author*

In the past twenty-five years various papers have been written which relate to the autonomic response factor as the agent that can be used for finding the *simillimum*: a brief list of these reactions includes the pupils, which dilate under the influence of the similar remedy if it is touched to or brought close to the patient; the effects on the tonus of the elastic tissues of the body that can be detected by percussing when the similar drug is held many feet away from the patient, and various other reflexes which have been discovered and described so fully that they need not be mentioned here.

Another approach has been discovered within the last year. Probably all of us know something about dowsing. If a forked stick be cut from any bush at the roadside and held by the dowser's two hands grasping the two branches with the point of the crutch held upward or horizontally, and one passes over a hidden water-vein, the forked stick dips towards the earth. This has always seemed something mysterious and inexplicable. Maby and Franklin, in England, studied the phenomena, and have solved the secret. When anyone walks over a hidden vein of water, he has no sensation of its presence. If, however, he grasps the two ends of a forked stick in his hands, his muscles are taut, and, as he passes over a dowsing ground, his muscles weaken. This occurs entirely below consciousness. The twig only appears to bend towards the earth. These two Englishmen have written a book on this subject, *The Physics of the Divining Rod*.

Here we have an example of how we can fool ourselves by misinterpreting certain phenomena. Only a person who has really used the method himself has any idea of the apparent reality of the effect as being in the rod itself. All through the past ages the reason for the rod's dipping was never discovered, although it has been generally used. Many have thought it to be a fake.

One day, in our test laboratory, when our technician, Mr. Evia, and I were attempting to work out the remedy for a patient through the use of reflexes, I happened to be standing facing east with the envelope containing the specimen of the patient in my left hand and with my right hand picked up a vial containing a

\* Read before I.H.A., Bureau of Materia Medica, for the Foundation for Homœopathic Research, June, 1946.

remedy which had been tentatively selected. As I picked up the vial, there was a distinct sensation of heaviness in its weight, so distinct that I remarked: "That must be her remedy." Luckily Mr. Evia was present, for he caught the significance of the phenomenon, and developed a technique for its use.

Further practice in the use of these phenomena has given us the most certain and the easiest to manipulate of all the techniques.

To make a test, an envelope containing a blotter on which is a dried lick of saliva or a drop of blood from the patient is placed on the operator's forehead, and retained by a two-inch bandage. The operator then faces east or west and picks up, one at a time, a group of remedies, all of the vials weighing the same. Certain of the vials will seem heavy. These are re-tested until one is sure that, one of the vials continuing to feel heavier than any of the others, THAT remedy will be sure to help the patient. Of course, in most of our medicine-drawers not all of the vials contain the same amount of granules. Here we can substitute something else for the vials. If a weight, such as a light book, be lifted by one hand, while, with the forefinger of the other hand the operator touches, one at a time, all of the vials that are to be tested—when he touches the one which is the similar for the patient, the book will feel heavier.

Until one tries this technique for himself he cannot realize its accuracy; the method has to be experienced in order to prove itself.

Apparently, not everyone can dowse. My friend, Major Abraham B. Cox, who has a farm in Cherry Valley, always employs a dowser when he wishes to find a new supply of water on his farm. He himself cannot dowse; so probably not everyone can use this method—although thus far I have not found anyone who tried who did not experience the reaction.

One should darken the room when he is dowsing—the darker the better, because the reactions are dulled by light. As mentioned in the previous paper, most migrations are at night.

The operator should be grounded by a copper wire and wear a copper belt reaching two-thirds around the body and open in front—these appear to enhance the reactions, and, at the same time, carry off the energies that might be retained in the body of the operator.

The operator must always face east or west so as to be edgeways in the magnetic meridian.

This technique is available for anyone who can master it. The phenomena should be observed and studied by different groups. Gradually there will emerge someone endowed with the talent for bringing all of these phenomena into a co-related whole which will convince everyone of the reality that to-day

seems unbelievable, but which all living things, below men, accept as a matter of course.

For a long time, dowsing has been studied in the European countries and there are a great many dowsing societies. There should be some concerted interest in the phenomena here in the United States.

Certain reactions can be made visible. I recall an instance in Abrams' clinic. A specimen was being examined. Abrams always used a healthy young man as a subject. The specimen had been sent to Abrams, and he diagnosed it by means of his subject. He found reaction came through at 42 on his rheostat, which indicated tuberculosis, and he remarked: "Let's find where it is located." The subject's chest was percussed, and dullness was observed at the left side of the chest, in the back. With his hand, Abrams slapped the subject's chest on the back, and the area where the dullness occurred became blanched. This was a vivid illustration of the mirror-like relationship of the subject to the patient who furnished the specimen.

Abrams was, essentially, a diagnostician. He considered that all treatments should be based on the diagnostic factors, and all his research was based on this concept.

Hahnemann's concept is based on the individual's reaction to his disease.

William E. Boyd, who graduated from a regular medical college and was a radio expert, investigated Abrams' discovery and found that there are eleven basic groups both of human beings and of drugs. This brought a factor of orderliness into this field that Abrams had failed to discover. Unfortunately, the gulf of misunderstanding between homœopathy and allopathy is so deep and wide that this grouping is useful only to those who understand homœopathy.

Contemplate the significance of the dowsing principle. It is no different in principle to breathing. Breathing is a rhythmic muscular action which begins the moment an infant experiences oxygen hunger; it is a necessary function for life. We can place both the dowsing phenomena and the breathing phenomena in the field of autonomic reactions.

In so far as I personally know, the dowsing principle has no relation to any human necessity, but I can imagine it to be of vital importance to some forms of life. When thinking of life as a whole and its evolution through all its forms, we can imagine that, in the period when the dense growths that are now coal had to know where to find water, the tree drank water through its roots and sent its roots long distances when necessary.

Life as a whole has existed on the earth for millions of years, and in innumerable forms. At one period lush vegetation existed, supported by a rich proportion of carbon dioxide. That vegeta-

tion is the coal which man is so lavishly burning to-day. Every life form developed mechanisms for utilising the materials of the earth. Among others, the tree drank water through its roots and sent its roots long distances when necessary.

Dr. George Starr White, in one of his books, mentions a grapevine that sent a root more than a quarter-of-a-mile to a decaying body. This and all other examples of life activities that involve distance, whether it be in the air, the earth, or in water, represent life's ingenuity in obtaining its needs, and the faculty is outside of consciousness.

Man inherits something from all forms which have preceded him ; and, since water is a prime necessity for life, it is not strange that his AUTONOMIC mechanism responds to the hidden water.

Similarly, it is not strange that the subject's autonomic mechanism mirrors accurately the condition of the patient, and determines the suitability of any therapeutic measures.

---

## RADIESThESIA

### A Demonstration of Apparatus and Technique

Mr. D. W. Atkinson, who was associated with the construction of radiesthetic apparatus as far back as 1922, and has since made a wider study of the practical aspects of Radiesthesia, recently gave an interesting talk and demonstration on the subject before a small medical audience.

Amongst the apparatus he showed was a French appliance comprising a flat panel whereon is drawn a circle diagram divided into a number of equal sectors by lines radiating from the centre. In use it is orientated to the points of the compass, and when that is done the indications for diagnosis is said to be given by the angle at which a pendulum held over the centre of the circle swings. The line of the swing points to a printed interpretation of its significance.

Another appliance, also French, has a square diagram which is divided into four by bisecting the sides and joining the opposite points of section. Orientation is said not to be necessary. Instead, a heavy U-shaped magnet is placed to right and left of the operator at opposite ends of the centre line. Within the curve of one magnet is placed something representing the patient or his malady, a bloodspot for example, and within the curve of the other magnet the remedy suggested. A pendulum held by the operator is allowed to swing between the magnets and is moved till the swing crosses at right angles the line joining the magnets. The correct remedy is said to be found when the swing crosses at the centre, for that indicates that malady

and remedy are balanced. The distance off centre and the behaviour in each of the inner squares also have significance.

But in his own work Mr. Atkinson appears to use apparatus rather suggestive of an adaptation of the ideas of Abrams and Drown to the Biometer scheme of Bovis. One such appliance comprises a long and narrow panel equipped with a microammeter and provided with a number of knobs, the latter controlling wire coils beneath the panel. But instead of the coils having high ohmic resistances their resistance is negligible, for they merely vary slightly sections of the total length, of which possibly the amount in actual use at any one time does not exceed a couple of metres.

Another appliance comprised two parallel lengths of wire of a metre or so each, stretched Biometer-fashion but without any lozenge, across a panel of insulating fibre and provided at one end with a "sticky" rubber indicator such as is used with the Drown apparatus.

Special importance is attributed by Mr. Atkinson to a certain exact optimum total length of wire by use of which he claims he can obtain stronger readings on microammeter or other indicator.

Using a metre scale he says he finds that a healthy person produces pendulum readings at 20, 40 and 60 centimetres, all three figures being merely portions of the same wave, and that the figures tend to fall back in ill-health.

More will be heard soon, it is to be hoped, of Mr. Atkinson's researches.

W. E. H. H.

---

## UNELATED INTELLIGENCE VARIES LITTLE, ELATED MUCH

BY W. E. BENHAM, B.Sc., F.INST.P., A.M.I.R.E., F.R.S.A., F.P.S.L., F.T.S.

In a recent Brains Trust (October 28th, 1946), Barbara Wootton claimed that Intelligence Tests conclusively showed that four out of five people possess the necessary G, or brain power, to enable them to qualify at a University Degree examination. This would seem to establish that the spread of Intelligence among individuals differing widely in occupation and social status is very much less than is commonly believed.

On my "paraphysical" instrument I make a number of readings, which will here be but briefly described in order of magnitude:—

a, b	correspond to the inner aura; disappear on death of subject; typical values 10, 16cm.
$\phi_1$	first "paraphysical"; typical value 35cm.
$\psi - \psi \psi +$	correspond to the "mental aura." $\psi$ , the "psychic" reading, denotes mental acuity and probably

corresponds to G exactly; typical range of  $\psi$ : 44-52cms.

The readings  $\psi_-$  and  $\psi_+$  are the "minima" on either side of the  $\psi$  reading. Of these  $\psi_+$  is the more important. Typical range: 48-100cms. Their value is intimately bound up with the strength of the "maxima," namely, the parapsychicals  $\varphi_1$ — $\varphi_6$  as well as  $\psi$ .

$\varphi_2$ — $\varphi_6$

are the five parapsychicals lying above the psychic reading. Typical range of  $\varphi_2$  is from 50 to 160cms;  $\varphi_6$  can extend to 1,000cms. or so.

Now, the typical range of  $\psi$ , quoted above, corresponds to a spread in this factor of no more than  $\pm 8\%$  or so. The results of Intelligence Tests are thus well borne out by measurements on the mental aura. [Even if we take  $\psi_+$  as the index, the range of variation is not more than about  $\pm 33\frac{1}{3}\%$ , based on 72cms. as mean reading. I do not myself believe that to take  $\psi_+$  as the index would be justified, since for a given  $\psi$ ,  $\psi_+$  can be raised by depressing the physical vitality of the subject. The interpretation of this reading thus requires great care].

Nevertheless, the fact is inescapable that an extremely small proportion of those actually entering for University examinations really distinguish themselves; many make a most deplorable showing. As to what would happen if "the masses" were given a trial, I hesitate to say. It is also known that the range of mental capacity exhibited in such high-level examinations as the Cambridge Mathematical Tripos is very considerable, so much so that it would be quite impossible to publish the marks for fear of discouraging Wranglers, so greatly do these marks vary.

Possibly such results may be in part explained away by powers of memory coming to the aid of candidates in varying degree. Thus the highest marks may frequently connote the best memories, and not the highest intellects. However, in the example of the mathematical tripos this is probably not an important point. The great variation must be accepted as mainly due to a great variation in intellectual gifts among the candidates. Intelligence Tests fail completely to give a satisfactory explanation of this, and one must try and account for this failure. To do so, we introduce the hypothesis that Intelligence Tests merely record what may be termed the *Unrelated Intelligence*—that is, the Intelligence of an individual when in the fully conscious state. Parapsychical measurements of individuals in the fully conscious state similarly give the Unrelated Intelligence only. In order to assess the overall mental powers of an individual, note must be taken of higher mental states which an individual may be capable of attaining under suitable conditions. Dr. Bernard Hollander

has, in his *Hypnosis and Self-Hypnosis*, given it as his opinion that the creative work of genius is carried out in a state of semi-trance, bordering upon the hypnotic state, produced by intense concentration upon the work in hand. When in the normal, waking, or fully conscious condition, the genius becomes "just an ordinary man."

Until an Intelligence Test can be devised to assess the ability of wits to sharpen during periods of profound concentration, we are better off with Paraphysical measurement which may be made during such enhanced state.

One difficulty which immediately suggests itself is that just those persons having the greatest gifts might be the most difficult to put into a trance state for the purpose of an intelligence test for elated intelligence; those same people might, however, be perfectly capable of *self-hypnosis*, provided they did not feel they were being "assessed" unfairly, might be induced to co-operate with the investigator by agreeing to submit to test questions when in a self-induced state of trance. What is important is the ease with which an individual can attain to enhanced states.

Commonly the  $\psi$  reading increases by 1cm. and the  $\psi_+$  reading by 5cm. during periods of concentration. But, in addition, the readings  $\phi_1$ — $\phi_6$  respond in varying degree. I have found, for instance, that concentration may in gifted persons bring about a temporary increase in  $\phi_6$  from 1,000cm. to 1,200cm. Now this increase of 2 metres in the extreme outer boundary of the paraphysical aura is interesting in that it provides a clue to the profound question, "And which of ye by taking thought can add one cubit to his stature?" It should be added that the "lilies of the field," and likewise many other plants, not to mention many families of insects and birds, are endowed with paraphysical auræ of very considerable extent, surpassing those of the higher mammals, including man (exceptions excepted).

---

## LETTERS TO THE EDITOR

Bembridge,  
Isle of Wight.

December 26th, 1946.

Dear Colonel Bell,

Having read with great interest the lecture of Dr. Brunler on October 20th, as reported in the *Journal* for December, I have been asking myself some questions which I have been unable to answer, and should, therefore, be glad if Dr. Brunler would kindly enlighten me.

First, we read that electro-magnetic waves, and di-electric

waves passing along the Ulnar nerve, cause the divining rod to bend, or the pendulum to swing or to rotate.

I should like to ask Dr. Brunler on what he bases that statement, and what evidence he has that it is the Ulnar nerve only that functions in this action. Why this nerve only, whose branches are distributed only to the little and the adjacent side of the ring fingers; why is the Median nerve excluded, whose branches go to all the other fingers?

My own experience when using my hand in the place of the rod for locating diseased areas in the body is that the tingling which occurs over the affected area or organ is mostly in the second and third finger. Further, how does the Ulnar nerve come into the picture in the case of those who are radio-aesthetic through the feet?

I am inclined to assign this function to all the sensory nerves of the face, body, and the extremities.

Again, on what evidence does Dr. Brunler state that we think only with our Pia Mater? This is so contradictory to all physiological teaching and opinion, that one has difficulty in accepting such a subversive statement without having the evidence on which it is based.

Amongst the men of fame whose biometric measurement is given, we miss the name of Francis Bacon. It would be interesting if Dr. Brunler could supply us with his reading, so that it might be compared with the others. Shakespeare's measurement, taken from his signature (not from his portrait, as there is some doubt of the reliability of this), would also be interesting, especially to those who hold that he was not the author of the works appearing under that name, and that his mental calibre rendered him incapable of such creations.

I hope that it may not be long before Dr. Brunler gives us another of his thought-stimulation lectures.

Yours sincerely,

DUDLEY D'A. WRIGHT.

---

1 Upper Broad Street,  
Trowbridge,  
Wiltshire.

23rd January, 1947.

Dear Colonel Bell,

I wish to apologise for the mistake which I so carelessly made in Figure 2 of my article "Flow of Underground Streams."

The right-hand parallel should have been labelled "Dips Rises Rises" to correspond with arrows and the exact opposite

of the reaction shown for the left parallel and the "Stream Band."

The greatest problem which confronts most dowzers is, I believe, distinguishing the stream reactions from those of the parallels, and it would be interesting to read other members' methods.

Mr. Underwood's methods of obtaining the strongest reaction and then testing for the various flow effects would, I suppose, be the most reliable method, but I should welcome other suggestions.

Yours sincerely,

G. APPLGATE, JUN.

---

## REVIEWS

### RÉVÉLATIONS SUR LE RADIESTHÉSIE\*

BY J. CHARLOTEAUX AND A. DOHET

This book, containing about 170 pages of reading matter, is written from a strictly scientific point of view. It is a pleasant change from the familiar type of work on Radiesthesia in which the author describes, in a pseudo-technical terminology, his own individual experiences, many of which can only be due to the promptings of the subconscious mind.

Both authors spent more than five years in a P.O.W. camp during the last war, and perhaps this is why there is not a single reference to the most scientific study of Radiesthesia which has yet appeared, namely *The Physics of the Divining Rod*. If the authors had read this book, it is possible that some of their opinions might have been modified; as it is, they do not appear to admit the possibility of any hitherto unrecognised physical forces.

As usual in books from the Continent, prominence is given to that wayward instrument, the pendulum, the subservient agent of every whim of the subconscious mind. No mention whatever is made of the motoroscope, with which such splendid work has been done, nor yet of the angle rod.

In discussing the pendulum at some length, the authors come to the strictly conservative conclusion that its various movements are entirely due to changes in the position of the point of suspension caused by a neuro-muscular reflex of the operator himself, and that the material of which the pendulum is made is of no account; all other effects observed are attributed to psychic causes.

---

\* Obtainable from F. W. de Valda, 100 Castle Hill, Reading, for 12/6 post free.

Only two pages are devoted to a somewhat inadequate treatment of the rod, and an unfamiliar type of rod at that.

In a chapter on the "Human Receiver," the authors reject the idea that the microscopic human cell could act as a resonator responsive to radiation emitted by matter, but that the neuromuscular system is directly influenced by electric, magnetic and gravimetric fields which are, in general, appreciated simultaneously by the dowser, whilst a psychic factor intervenes to cause the dowser's selective powers. In other words, the movements of the dowser's instruments are due to involuntary neuro-psychic reflexes, in which the psychic plays a large part, and hence the necessity in the operator of good mental orientation. The authors do not believe in "human polarity," and state that no difference in electric potential between the two sides of the human body, male or female, is discernible, adducing experiments of Lord Kelvin and Dr. Leprince; they consider that the opposite movements of the pendulum in individuals is due to the neuro-psychic reflexes.

There is an interesting chapter on the part played by ionisation through alteration of potential, and the causes, such as radio-activity, to which it is due.

In describing the actual prospection for water, the network of bands of changing phase which is observed by the careful dowser is ignored, and mention is made only of a depth parallel. The effects of soils of various kinds on estimates for depth are attributed to variations in conductivity. No mention is made of methods of estimating quantity, nor of the "flow field" which the careful dowser finds in connection with running water.

Considerable space is given to the question of *Rayons Nocives*, in which the prolonged and careful investigations of Cody\* and the work of Chiyevski and de Vita are referred to at some length. The conclusion arrived at is that the effect is mainly due to abnormal ionisation produced by the emission of radio-active rays rising vertically from underground streams, but sometimes to telluric currents and to contact between rocks of different kinds.

In discussing medical radiesthesia, the location of an affected organ is attributed to the appreciation of a sudden change of potential, and the action of the dowser is compared to that of Leprince's automatic apparatus, the Neurotonomètre and the Radiobiomètre. The dowser's ability to select remedies is held to be possible through the micro-magnetic properties of the various drugs.

In a chapter on "Probabilities," calculations are given for a

\* See B.S.D. *Journal* IV, 27, 96, for some account of M. Cody's work at Le Havre.

series of experiments in which the number of successes far exceeds the possible results of chance.

Towards the end of the book, there are some remarks on certain radiesthetic "rays" which are very much to the point, their actuality being compared to contours on a map; in other words, they can only be regarded as mental conceptions. The Fundamental Ray, the existence of which has, however, been verified instrumentally by Maby as a definite physical radiation which changes with the sun's orientation but can be stabilised by a magnetic field, is attributed to auto-suggestion, no doubt correctly in general, for, as the authors state, every dowser seems to get different values.

In discussing the future of Radiesthesia, we are told the interesting fact that in the war in Abyssinia the Italian army included water supply companies with an establishment of dowsers.

This book may be summed up as a thoroughly scientific discussion of Radiesthesia, but far too cautious in its promptness to relegate all phenomena such as "samples" and "series," which do not admit of an obvious explanation on physical lines, to the psychic pool. It is well documented, but, like most books on *Radiesthésie*, it lacks an index.

Every serious student of Radiesthesia should read this book.

A.H.B.

## RADIESTHESIE POUR TOUS

NOVEMBER, 1946

*Bähr's Marked Circle.*—Dr. P. L. C. Mohlberg, Lecturer at the Faculty of Theology, Lucerne U., describes the 19th-century discovery of the German, Bähr. The pendulum oscillates outwards from the sample at the centre. Examples: Eggs in various states, milk, lactic acid, seeds, chemical acids, fertilizers.

*Nylon as a Pendulum Suspension Thread:*

*Metallic Gauze Does Not Prevent All Influences from Passing.*—Turenne's waves identified by vertical magnets will pass. The Mager fundamental ray is stopped, though the serial number over the sample remains. Four gratings do not stop the fundamental ray. With six gratings, the effects are as if there were none.

*Advice to Move Quickly When Detecting Influences.*—The technique of Mermet an example. When drawing pictures used as witnesses advice to mentalise, also as the result of describing in words.

*Father Bourdoux's Methods.*—The author learnt the art by himself when he was a missionary in Brazil. Mention of the herbal remedies called Poconeol he brought back.

*Check of Serial Numbers (Série).*—Colonel Correnson's method of controlling the serial number by finding the number of horse-shoe magnets laid beside the sample in order to stop gyration; the number less one is the serial for that sample. Monsieur Pitois has discovered a similar "objective" method of control which is described in *La Condensation Radiesthétique*. Here alternate plates of mica and aluminium, arranged like an electric pile beside the sample, or else combined with the pendulum, insure a similar effect.

*Means of Detecting Human Influences* by suspended paper cylinder, as introduced to the British public by Lord Dowding. The method was described first in 1908 in the review *Vie Nouvelle*, then again by Dr. Bonaymé and P. C. Jagot in the work *La Force Psychique*. The conclusion—these cylinders will have to be considerably improved before they have any practical value.

*When the Sub-conscious Takes Control.*—Conclusion. Even those who approach radiesthesia through physical channels work correctly only if their minds contain a picture of what is required.

*How to Begin Divining.*—Advice from Mr. F. Servranx at the Brussels Divining Club.

Re-appearance of the Bulletin *Les Amis de la Radiesthésia*, Journal of the Association Française et Internationale.

#### DECEMBER, 1946.

*Editorial on the Twelfth Month of Work.*—During the twelve months eleven numbers were published, totalling 272 pages.

*Fundamental Rays, in Defence of.*—Variations found by diviners do not differ more than variations in the interpretation of colours by the colour-blind. F.R. are genuine, and results become very accurate for a person using a given pendulum like that devised by Voillaume with gearing. As representing the physical approach to radiesthesia, the reader is advised to study de Marsay, Pitois, Gorceix and Correnson.\*

*The New Pendulum Regulation Based on "Impregnation" Technique.*—After a review of de France, Voillaume and Correnson, the newspaper points out that equally good selection or tuning is obtained by the use of a pendulum of fixed length

---

\*Books by the first three are in the B.S.D. Library.

held over the sample until it is tuned by impregnation. In all tuning, good results only follow if the operator's mind carries a picture of the desired detection.

*Word Samples.*—Section 2 of an article started in No. 7 on Page 155. A sensational discovery\* made by a group of four contributors to the review. The written word when suitably placed produced the influences attributable to material objects described by words. Invitation to readers to prove this by carrying a bottle marked "arnica" in the waistcoat pocket; both arnica itself and the word witness of arnica will then cause the person within a week to find the taste of tobacco different and even unpleasant. Write in BLOCK LETTERS.

*Dispersion Fields of Henri Mager.*—Forms of amplifier making perception easier. Influences of the azimuthal plane, secondly of concentric circles suitable for the person with a physical training.

*Self-analysis by Half Circle Test Along Astrological Lines.*

*Science and Method.*—M. Victor Mertens, President of the Brussels Radiesthetic Study Society; a review of the subject, including a definition of the word Radiesthésie and of other terms.

*Is It Telepathy?*—A lecture by Mr. F. Servranx, given to the Brussels Society.

JANUARY, 1947.

*The Proper Way in which to Ask the Pendulum.*

*Metallised Water.*—An article showing how anyone can charge drinking water with ions of silver, making it bactericidal, as shown originally by Lakhowsky, who reported the fact to the French Academy of Sciences.

*Turenne's Letter about the Filtering Effects of Metallic Gauze.*

*On the Pa-kua and Other Geometrical Forms.*—"Radiesthetic compasses" and their effect on experiment.

*Tuning by Impregnation.*

*Letter from Henry de France commenting upon The New Pendulum Regulation, of December.*—Further information from the authors, Messrs. Servranx.

*Letters to the Editor:*

*On Poconeol.*—On the fact that though well-known diviners get different results as regards azimuthal rays and serial numbers, these phenomena are no less genuine. Mermet, Brochenin, both tending to operate along mental lines, agree with physical diviners

---

\* Already well known to many of our members.—EDITOR.

like Turenne, Mager, Voillaume and Correnson to make use of these methods of identification.

*Rules as Conductors.*—Continuation of article in No. 8 ; Analysis of chemicals and of substances contained in Boxes.

*Perception without Instrument.*—A lecture by Servranx to the Brussels Society. Methods of de France, Baradat of Morocco, Brochenin.

*Prospecting for Water.*—Lecture by M. Mertens ; reference to the use of depthing apparatus created by Larvaron, retired professor of agriculture and chemistry at Rennes.

*On Choosing a Rod.*—The article adds that all the influences of an underground stream are represented by those detected over a length of wire, insulated or not, attached to the middle of a horseshoe magnet.

*Book Review.*—"Etude Sur Les Influences Cosmiques," by Alfred Lambert, Director of Maison de la Radiesthésie.

N.McB.

## RIVISTA ITALIANA DE RADIESTESIA

Nos. 1-4. Vannini, Brescia.

This monthly review is perhaps the most ambitious of Continental publications. Many highly qualified writers propound their theories and speculations. One article, by D. D. Castelli, gives a diagram in which the pendulum is in indirect contact with the right hand, and swings within the field of a bobbin of some 50 turns of fine silk-covered wire, ending in a short antenna. Following this sketch, a model was constructed, but this failed to give any of the predicted responses. Another article refers to the use the German and Italian Forces made of dowsing in the African deserts—apparently with considerable success.

Much attention is paid to the reports in *Radio-Perception* of the TATWAS. These are referred to as the TROMELIN cylinders.

An account is given by Luigi Filonardi of mineral dowsing by pendulum in 1879. Domenico Mascarelli discovered valuable mineral deposits in Liguria, giving accurate details in a booklet published at the time.

ESTESIOGRAMS. Another new word ! Ugo Morichini gives a detailed account of curious figures described by the pendulum when used in conjunction with human beings, inanimate objects, and photographs of a variety of subjects, including a graph stated to be produced by a photograph of the spiral nebular "Meisner 81."

F. W. DE V.

## REVUE INTERNATIONALE DE RADIESTHÉSIE, No. 2

This number maintains the high standard of its predecessor.

*Faisons le Point.*—Jean Charloreaux discusses the parts played by the physical and mental factors, and concludes that in prospect on the ground the two are inseparable.

*La Perception Humaine en Radiesthésie.*—L. Chouteau gives much information regarding tests on the reflexes and on human polarity.

*La Situation de la Radiesthésie par rapport à la Science.*—Emile Christophe agrees that it is a mistake to try to include radiesthetic phenomena in the sphere of Physics as at present recognised, seeing that the invisible effluences which we study are subject to laws peculiar to themselves.

*Des Méthodes en Radiesthésie.*—Gabriel Lesourd insists on the essential unity of the physical and mental in dowsing.

*De l'Objectivité en Radiesthésie.*—Paul Serres tries to account for the inexplicable differences in the methods of experienced dowsers, such as in regard to the "fundamental ray" and "series," as being due to the adoption by them of a personal code.

*Other Wireless Diagnoses.*—Dr. Wm. Thomas Bidwell gives some remarkable examples of medical diagnosis and cure.

*Influence des Rayonnements Médicamenteux et Métalliques sur le Développement des Végétaux.*—Dr. Samuel Aysoy gives results of observations on fruit trees.

*La Puissance Vitale des Semences.*—M. Larvaron describes experiments on potatoes.

*Recherche des Disparus.*—Dr. Jules Regnault; a critical discussion in which some complete failures are described.

*Téléradiesthésie.*—Charles Dierckx concludes that it is a psychic science to be classified under Paraphysics.

*La Radiesthésie et les Philosophes Grecs.*—Basil Athanassiades, B.G.G.A., mentions amongst his remarks that the Ancient Greeks had a word "ekkremscopia" (observation by means of the pendulum).

*La Geofisica et la Tecnica.*—Raimondo Jemma describes the electrical methods of Schlumberger and of Wenner, the former depending on measurements of natural potential and the latter being the electrical resistivity method.\* A third method devised by Conrad and Marcel Schlumberger can determine the formations traversed by a bore, as also their strike and dip.

\* See Lecture by E. P. Wilson in *B.S.D.J.* II, 16.

*La Radiesthesie et l' Art de Guérir.*—Paul Dessart, advocate of the Court of Appeal of Liège discusses the legal position of the medical radiesthetist in Belgium and France.

In view of the continued attacks on Radiesthésie by writers and journalists, the Editors have started a *Tableau d'Honneur* in which notable results, the reality of which is indisputable, will be published. Three cases are given.

Amongst the reviews Mr. T. B. Franklin's article "Cosmic Radiations and Dowsing" which appeared in *B.D.S.J.* VI, 52, is printed in full in English and French.

There is a short obituary notice of the well-known teleradiesthetist, Joseph Treyve, who died on March 30, 1946. He was a collaborator of Dr. Alexis Carrel, author of *Man the Unknown*.

A.H.B.

---

## NOTES AND NEWS

The statement quoted from a letter from Herr Bittel on page 381 of *B.S.D.J.* VI, 52, to the effect that the practice of Radiesthesia was forbidden in Germany under Nazi rule requires supplementing in the light of a note by M. Jean Charlotheaux in the *Revue Internationale*, No. 2.

The official order was issued in August, 1943, but previous to that the German Army had employed dowzers, and in 1941 the *Zeitschrift für Wünschelrutenforschung* published an announcement stating that it possessed complete documents regarding the use of dowsing not only for water, but that military reasons prevented their publication for the time being.

Radiesthesia was discussed in other papers also. For instance, *Die Woche* of September 3, 1941, published a report on the work of dowzers in Russia, as did the *Das Illustrierte Blatt* of Frankfurt on Maine, whilst the organ of the supreme command of the Wehrmacht in its issue of January 29th, 1941, produced an illustrated report on military dowsing entitled "In the Desert, Water is more precious than Gold."

M. Charlotheaux, editor of the *Revue*, was a prisoner of war for five years, as also was the sub-editor; he can personally testify to the use of dowzers in P.O.W. camps, ostensibly to find water, but actually for discovering tunnels made with a view to escape. He underwent a close examination by the Gestapo on the subject of *Rayons Nocifs*. From July 1st, 1941, the study of Radiesthesia was formally prohibited in P.O.W. camps, as it was supposed to encourage attempts at escape.

M. Charlotiaux heard of a dowser who was condemned to a fine of 900 marks for practising without being a member of a Society of Radiesthesia. He had actually made a mistake. Other dowsers, though not members, were acquitted of fraud because a delegate of the Association was able to prove that intense ionisation, measurable by an electroscope, existed at places which had been indicated by them.

\* \* \*

In the *Melbourne Age*, Australia, of July 6th, there was a long illustrated article on the "Power of the Divining Rod."

\* \* \*

An article in *Illustrazione Ticinese* of August 3rd, 1946, describes how Signor Gumpertz of Crocofisso, Lugano, discovered by dowsing over a map the whereabouts of a small flock of sheep which had been buried by a snowstorm. The result was that after five days of cold and hunger the whole flock, increased by one lamb, was rescued. One of the pictures shows Signor Gumpertz bent over a map with a pointer in his left hand and holding in his right a pendulum over a sample consisting of a small quantity of sheeps' dung and some bits of wool.

\* \* \*

The *Adelaide Mail*, South Australia, of October 12th, had a picture of water issuing under pressure from a bore through 120 feet of rock at Mr. Schubert's, Angaston. The site for the bore on high ground overlooking the Borrossa Valley was selected by Mr. E. Keller, a Greenock Diviner. Three other springs were encountered, as he had foretold, before the final spring was reached. The water was of excellent quality.

\* \* \*

There was a short report in the *Totnes Times* of November 9th of an address given by Mr. G. J. Wotton, B.S.D., on Water Divining under the auspices of the Paignton Forum.

\* \* \*

We are told in the *Western Morning News* of November 20th that Dowsing was the subject of a lecture by Mr. J. L. Fiddick to the Brixham Literary and Debating Society, a practical demonstration being given by Mr. Wotton.

\* \* \*

An interesting and informative article entitled "The Art of the Dowser," by T. Bedford Franklin, appeared in *A.E.I. News* (Associated Electrical Industries) for January, 1947.

The *Manchester Guardian* of January 11th contained a short article stating that François Gramenia, a French Alpine villager, received a 50,000-franc reward for directing searchers to the body of a young engineer who died in an Alpine snowstorm. After working for four days in his room at the village of Saint Martin-Besubie, using a pendulum, a military staff map and a photograph of the missing engineer, he finally indicated on the map the place where the body was found.

\* \* \*

In the *Evening Standard* of February 7th there was a report from their Correspondent that a water diviner was to be engaged by Chalfont St. Giles to find a supply for the village pond which had run dry since the disappearance of the River Misbourne.

\* \* \*

According to the *Belfast Telegraph* of December 9th, 1946, at a meeting of the Londonderry Rural D.C. the Chairman referred to the fact that there was a young lady diviner in the district who had been most successful.

\* \* \*

Christmas crackers are keeping pace with the times. A member of the B.S.D. came across one containing a little pendulum with printed instructions how to hold it and how to use it for detecting the sex of eggs, animals, and so on.

---



---

CHARLES CLARKE (HAYWARDS HEATH) LTD.,  
PRINTERS.

